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THE Mix

The UK's No.1 Recording Magazine

Issue 72
March 00
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The science of perfect speaker placement

Small wonder!
Korg D16
EXCLUSIVE We test the pocket-sized 16-track digital studio

WIN Soundscape Mixtreme 2000 Digital Power Pak worth £700

Pro Tools tips
Getting started with Digi 001

Antares Mic Modeler
One plug in, 37 classic mics

Andy Gill
The final recordings of Michael Hutchence

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Media with passion

Sounding off

Founder of the Moving Shadow record label, drum'n'bass guru Rob Playford co-produced Goldie's ground-breaking *Timeless* album

How do you turn a plain old song into a *track*? Production. The song is the basic building block, and when you add the right sounds it turns into a track.

You can get sounds from modules and synths, which is okay if you get there before anyone else has used the sound – then it becomes associated with your track and no-one else can really use it after that. But I don't particularly like doing that, and I don't like programming synths, either.

My basic sounds can come from anywhere, but my trick is what I do to them afterwards. And that's what I really love doing – finding all those different things that you can get out of what would basically, on its own, be an ordinary sound.

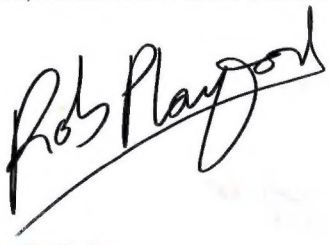
Don't get me wrong, I love a good pop song as much as the next person – verse, chorus, middle eight, and so on, but a good *piece of music* can move your emotions and you get off on it just as much as on a good song, even if it lasts eight minutes. It's all about creating a good flow, and to aid that flow, if you create your own sounds you end up with bits of 'glue' to stick all your parts together with.

And that's why messing around with sounds is really important to me. Sometimes I spend days in front of my computer and fill up mountains of hard disk space. If I listen to the sounds on their own they can sound like a load of crap, but they are great building blocks and I end up with a library that's purely my own.

I've done tracks recently that started with pretty much one snare hit and turned into a complete track, with pads and all, just by the use of crappy old guitar pedals, Logic, Pro Tools and a wide variety of plug-ins. And you can get incredible plug-ins these days; they all have their own uses, so you don't even need an expensive Pro Tools system or a decent synth.

All this came about because in the early days we used to go through other people's tunes and pick out bits to sample and then change them beyond recognition. That was really good training for now, when we have our own sound sources. Even if we get someone in to play a trumpet riff or something, we still treat it as though we'd found it on a record. Once it's recorded it gets treated as a sample, and we abuse it from there onwards.

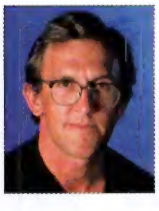
And don't think you need to use instruments 'properly'. The classic thing that drum'n'bass misused was the time-stretching function on a sampler. So take that guitar, take that knife, and run down the strings with it. Or whatever. In fact, it can be a hindrance if it's played properly, because you end up getting an obvious result. I guess that's where producers like me have come into our own – we may not be talented as musicians, but we know what we want to hear.



Rob Playford

contributors to this issue

Seb Pecchia
Currently tidying up loose ends for the release of his 'Snowhill' album project, Seb is also devoting time to setting up a new studio near Bath



Tim Oliver
Our Manchester connection, engineer/producer Tim is currently working with a band signed to the new Instant Karma label

Jon Musgrave
London-based Jon keeps busy as a house engineer at Roundhouse Studios. Recent credits include a Queen/David Bowie remix.

about THE MiX

THE MiX is the essential accessory for the recording studio. Our equipment reviews, written by working producers and engineers, give you an impartial opinion of the latest studio and recording gear, and our interviews get to the heart of the current techniques and issues in the recording industry.

THE MiX cover-mounted CD helps you produce better music, by providing a varied monthly selection of collectable studio-quality samples and MIDI files, demos of the latest software and hardware, and audio tutorials demonstrating contemporary recording techniques.

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Everything you need to make finished digital recordings in one compact package. Is it too good to be true? *Sean Vincent* finds out

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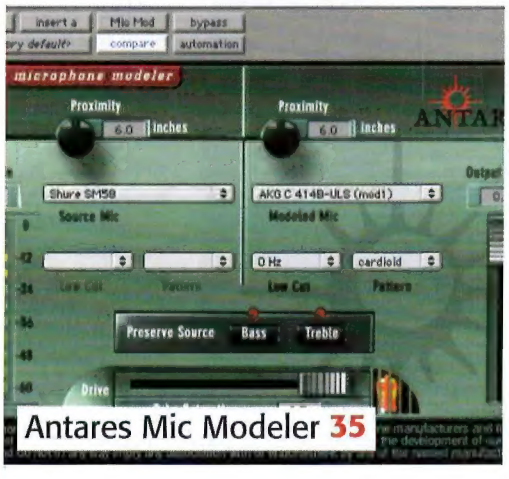
Problems in the studio? Our team of experts turn audio agony aunts to solve your technical problems



Antares Mic Modeler **35**

Monitor Placement **84**

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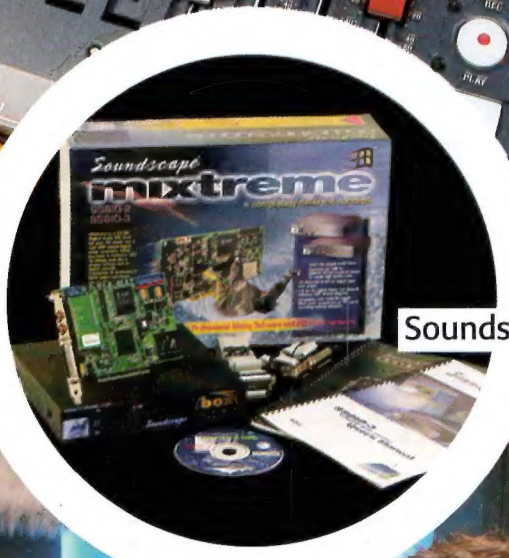

Soundscape Competition 14

Andy Gill 64

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The co-producer of Goldie's forthcoming album talks to us about his unique approach to making music

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cd contents

software

track 1

PC

Emagic Logic Audio p.52

Logic Audio Platinum 4.0
Demo version of the audio/MIDI sequencer/recorder.

Upgrades from version 4.0 to:
Logic Audio Platinum 4.1.1
Logic Audio Gold 4.1.1
Logic Audio Silver 4.1.1
MicroLogic AV 4.1.1

ES-1 synth
MP3 demo of the first-ever virtual synth created especially for Logic.

Soundscape
Software upgrades, full release versions and demos for Soundscape users. For full versions, contact Soundscape for authorization code.

Soundscape HDR editor v2.04.4
Upgrade and full release version.

R•Ed editor v2.04.4
Upgrade and full release version.

Soundscape Mixtreme v1.06 PowerPak bundle
Full release version of the PowerPak bundle, containing MicroLogic AV, Gigasampler LE, SurReal Synth, Sound Forge XP, Acid Style, Wave Mechanics Reverb and Soundscape Audio Toolbox.

Soundscape Audio Toolbox v1.04
Upgrade and full release version.

TC Reverb v1.01
Demo and full release version. To check out the demo, enter "Version 2 Mixer" in the password screen.

TC Dynamizer v1.0
Demo and full release version. To check out the demo, enter "Version 2 Mixer" in the password screen.

Dolby Surround Encode and Decode v1.01
Full release version.

Wave Mechanics Reverb v1.11
Full release version.

MAC

Emagic Logic Audio p.52

Logic Audio Platinum 4.0
Demo of the MIDI/audio sequencing and recording package.

Upgrades from version 4.0 to:
Logic Audio Platinum 4.1.2
Logic Audio Gold 4.1.2
Logic Audio Silver 4.1.2
MicroLogic AV 4.1.2

ES-1 synth
MP3 demo of the first-ever virtual synth created especially for Logic.

BitHeadz Voodoo p.81
Demo of the versatile, feature-packed MIDI drum machine for use with Unity DS-1.

demo of last month

track 2

Tube Monkey 'Neon Soul'
Disturbing electronica with furious vocal samples. This is no easy listen – but it's well worth trying.

demo of the month

track 3

Still Life 'Angel' p. 100
Swirling synths, massive breakbeat and cool vocal nuances all melt together to produce a house-y masterpiece.

track 4

Just Cause 'Promosis'
The winning demo from Sunday's *In the Bin* competition at the National Music Show.

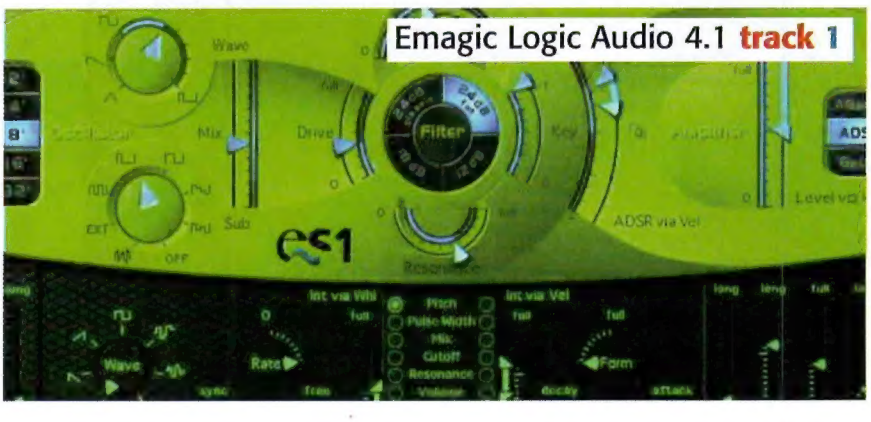
gear demos

track 5

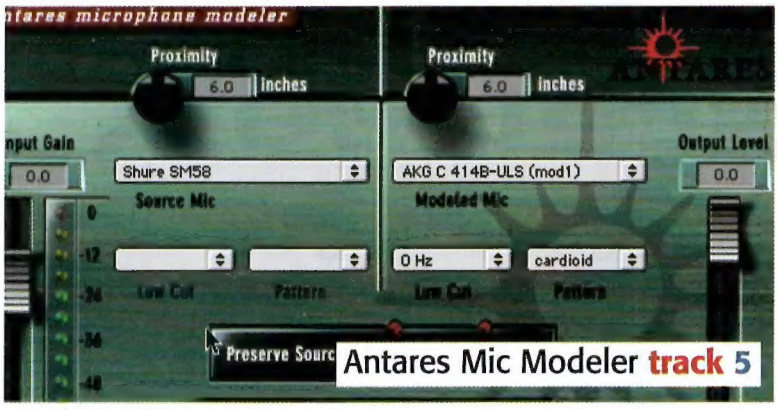
Antares Mic Modeler p. 35
Can you hear the difference? Four classic mics (Shure SM58, AKG C3000, AKG C414 and Sennheiser 421) are lined up against their Mic Modeler equivalents.

track 6

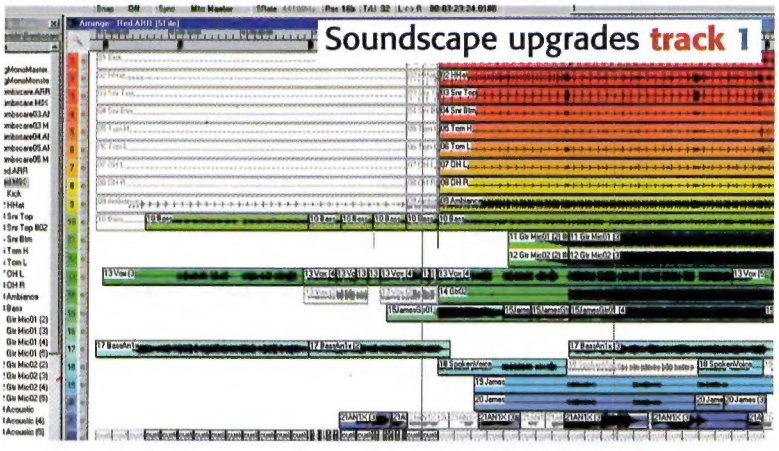
TC Electronic M•One p. 58
A run through the routing options and some of the presets on TC's high-quality, low pricetag multi-FX unit.
(i) Congas through preset reverbs
(ii) Congas through a selection of parallel/serial FX
(iii) Synth Arpeggio through serial FX
(iv) Synth Arpeggio through parallel FX
(v) Synth Arpeggio through dual mono blended FX



TC Electronic M•One **track 6**



Antares Mic Modeler **track 5**



Soundscape upgrades **track 1**

Netscape Online
The FREE internet service
track 1

Sign up for the new free Netscape Online Service sponsored by Future Publishing. Netscape Online brings you all your internet needs – browse the web easily with Netscape Navigator, organise your email with Netscape Messenger, and create great web pages with Netscape Composer – and all for free!

With one easy click, Netscape Online gives you...

- Search engine facilities to find whatever you need on the web
- Up-to-the-minute news and weather for home and abroad
- Coverage of and links to all your favourite sports
- Comprehensive financial information
- Games for all formats, from Mac to Dreamcast

Make Netscape Online part of your daily routine. Load it up from *The Mix* CD now.

This month's Sound Factory samplists

Andy Gill started his musical career in the late '70s as guitarist with influential Leeds-based politico punk rockers Gang Of Four. Later he moved into production and racked up a string of credits including the Red Hot Chili Peppers' first album. More recently he has been finishing off a solo album by the late Michael Hutchence, a project the pair had started in 1995.

Matrix is currently co-producing the forthcoming album from drum'n'bass pioneer Goldie. He recently released his own debut album *Sleepwalk* on Virus Recordings, a label run by Matrix' elder brother Optical and his partner Ed Rush. This innovative West London remixer and producer is also the man behind the music for the recent Cadbury's Flake ad campaign.

samples

tracks 7-13
Andy Gill: funked-up industrial loops

track 7 74 BPM
Loop 1a: With snare
Loop 1b: No snare, more toms
Loop 1c: No toms

track 8 120 BPM
Loop 2a: Without snare
Loop 2b: Snare pattern 1
Loop 2c: Snare pattern 2
Loop 2d: Snare pattern 3

track 9 110 BPM
Loop 3a: With tam and hats
Loop 3b: No snare

track 10 110 BPM
Loop 4a: With snare
Loop 4b: Without snare

track 11 110 BPM
Loop 5a: Kick and snare only
Loop 5b: With tams and hats
Loop 5c: Without snare

track 12 110 BPM
Loop 6a: With snare
Loop 6b: Without snare

track 13 110 BPM
Loop 7: Kick and snare
Loop 8: With hats and tam

tracks 14-18
Matrix: space-age sounds

track 14
Matrix basses

track 15
Matrix beats

track 16
Matrix FX

track 17
Matrix hits

track 18
Matrix synths (pads and loops)

news

If it's new and it's music production, it's here. All the gear, gossip and goings-on from a month in the biz...

Kurzweil at work

Keyboard kings unveil a new range of sampling workstations

Tsch, you know how it is. You wait ages for a Kurzweil, then all of a sudden loads turn up at once. Not content with upgrading the operating systems for their much-loved K2000 and K2500 synth workstations, Kurzweil have now released a new workstation, the K2600, also available as K2600R (rack) and K2600X (88-key weighted). The range follows in the tradition of the previous K-range, and the new models come with 12Mb of quality sounds as standard, which can be upgraded to 44Mb using four plug-in sound ROM boards. Up to 128Mb of sample RAM is available using standard 72-pin SIMMs, and the new models can accept K2500 sound ROM boards plus two additional ROM expansion boards.

As far as the sampling goes, the K2600 range provides 20-bit digital output, and external stereo signals can also be processed in real-time through its architecture. An 8-channel option makes it possible for the K2600s to process eight digital signals through ADAT, TDIF, or AES-EBU sources. The processed signals can then be sent out separately or digitally mixed to stereo, with effects and real-time control.

Add to that real-time effects, a 32-track interactive song arranger allowing complex sequences to be controlled and triggered from a variety of sources, and comprehensive on-board editing. The K2600s also have powerful arpeggiators, eight analogue outs, and read most popular sample formats – Roland S700 series (from SCSI), Akai S900, S950, S1000, S3000, and Ensoniq EPS, EPS16, and ASR10. WAVs and AIFFs can also be imported/exported, as well as MIDI files. Looks like the do-it-all workstation is back with a vengeance.

Features: Kurzweil K2600 range

- **Polyphony: 48 voices**
- **Sample RAM: up to 128Mb**
- **Sound ROM: up to 44Mb**
- **Architecture: Variable Architecture Synthesis, or VAST, with 60 DSP functions**

Prices: K2600 £2,099; K2600R £2,699; K2600X £3,399
More from: Arbiter Pro Audio
Tel: 0181 970 1909
Web: www.arbitergroup.com

Kurzweil's new workstation comes in three guises – the 76-note semi-weighted K2600, the 88-note weighted action K2600X, and the rack-mounted K2600R

Tune in to SPL

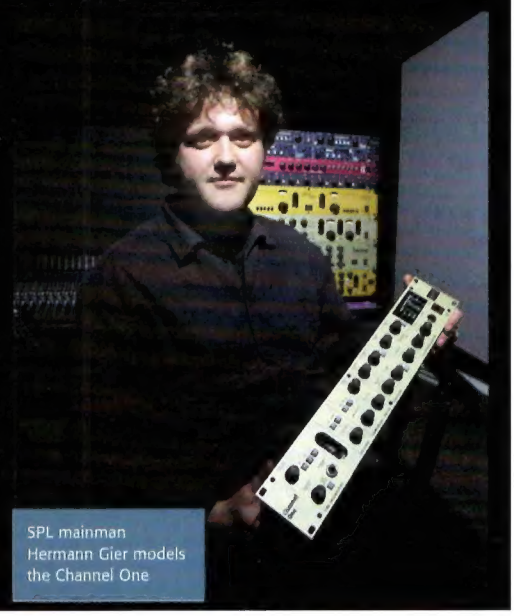
One channel: Channel One

When you're talking production basics, the first rule is to get the best possible signal down to tape, and what better way to do it than with a dedicated recording strip?

A new addition to the already impressive list of companies offering 'one-box' solutions is SPL, who enter the fray with their Channel One. Essentially comprising all the tools you need for recording, the Channel One features a tube preamp (with the prerequisite glowing-valve-behind-mesh type scenario), de-esser, compressor/limiter and an equaliser section, complete with distortion capabilities – very nice.

To make the the unit as user-friendly as possible, all of the onboard modules have been reduced to the most important features, aiding fast and effective operation. Expect a review of SPL's latest in the very near future.

Price: £999
More from: Pure Distribution
Tel: 0171 328 0660



SPL mainman Hermann Gier models the Channel One

Mixing on the move

14 channels of powered laptop mixing from ETEK

3D Associates solve the problem of affordable, portable and powered mixers with the introduction of the ETEK MA400 'NoteMix' Laptop Powered Mixer. It's a 14-channel mixer with onboard digital multi-FX, including reverb, delay and chorus, phantom power, and a 3-band fixed EQ on the six mono channels.

Combine that with a 400W power output, all contained neatly in a laptop computer-sized carrycase and you can begin to see the power of this mixer. And for those of you who may need a little 'headroom' in the input department, a 1U expansion module is available, bringing the total number of channels up to 38. What could be more convenient than that?

Price: £729
More from: 3D Associates
Tel: 0113 2037 098
Email: gturner@legend.co.uk

ETEK's NoteMix: possibly the smallest powered laptop mixer in the world

in brief

Improved Portastudio

20 years after it was first introduced, the humble cassette-based portastudio is still going strong. So much so, in fact, that Tascam have just introduced the 414 mkIII, an upgraded successor to the 414 mkII. Features include XLR mic inputs and an instrument level input for DI'ing guitars, basses and keyboards.

More from: Teac UK
Tel: 01923 819630
Web: www.teac.co.uk

Logic for Digi 001

Owners of Digidesign's Digi 001 can now use all the functions of their hardware with Logic Audio Macintosh. Emagic have developed Logic Audio 4.1.2 with a specially tailored direct I/O and MIDI adaptation for use with the Digidesign hardware. The update can be downloaded from the net free of charge by all current Logic version 4.0 owners, and it's also on this month's cover CD.

More from: Sound Technology
Tel: 01462 480000
Web: www.soundtech.co.uk

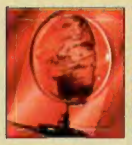
The foldaway iCool cans – for life on the move

Cool cans

If you want to be fashionable while wearing headphones, then Audio-Technica may just have the answer in the form of their new, ATC-H5 iCool model (£45). A dynamic, closed-back design available in translucent blueberry, the iCool features a unique foldaway construction making them ideal for use with a laptop.

More from: Audio-Technica
Tel: 0113 277 1441
Web: www.audio-technica.co.uk

in brief



New audience for Audient

Pure Distribution have just announced the sale of the first three Audient AP8024 analogue mixing consoles (from £13,600) in the UK, one of which has been installed in Ian Broudie's studio on a barge on the River Thames. The in-line design is the result of a development program to set a new standard in cost-effective analogue recording, and features 80 inputs, full 24-track routing and 14 auxilliary buses. Look out for a review of the console in a forthcoming issue of *The Mix*.

More from: Pure Distribution
Tel: 0171 624 6000

Triton loops option

A third expansion board is now available for Korg's mega sampling workstation, Triton (reviewed in issue 64). PCM03 (£139), named 'Future Loop Construction,' contains 113 types of PCM data rhythm loops stored as multisamples, which can be used to make drum loop program/combis on Triton. It joins its equally-priced siblings, the PCM01 'Piano/Classic Keyboard' and the PCM02 'Studio Essentials'.

More from: Korg
Tel: 01908 857100
Web: www.korg.co.uk

Live engineering training from Soundcraft

Soundcraft have rescheduled their 'Going Live' training course for live sound engineers. The weekend seminar, which will feature leading pro touring engineers covering a variety of related topics, will take place at The Depot Rehearsal Studios in London over the weekend of 18/19 March. The course costs £90 including refreshments.

More from: Soundcraft
Tel: 01707 665000
email: Elizabeth.Gates@soundcraft.com

Spirits in the material world

California producer "renewed" by digital experience

The Spirit 328 digital console is continuing to win the hearts and ears of producers around the world. The latest convert is California-based producer David Frank, who co-wrote and produced the teen-pop hit 'Genie in a Bottle' by Christina Aguilera and US Top 5 hit 'The Hardest Thing' by 98 Degrees.

David has added a pair of 328s to his home-based Canyon Reverb studio, replacing his analogue 24-channel Soundcraft Spirit Studio console. "The 328's E-Strip really appealed to me," commented David. "It made the transition from analogue to digital very easy. Once you understand how it operates, there's almost no reason to look at the manual."

David was also impressed by an A/B test between the 328s and his previous board, saying "It really renewed my excitement for unusual sounds, and digital-type sounds in particular became so amazingly more detailed that it was actually a renewing type of experience."

The Spirit 328 is now available with upgraded version 1.1 software and three optional interface boxes.

Price: £3,519
More from: Spirit by Soundcraft
Tel: 01707 665000
Web: www.spirit-by-soundcraft.co.uk

David Frank gets into the Spirit of things

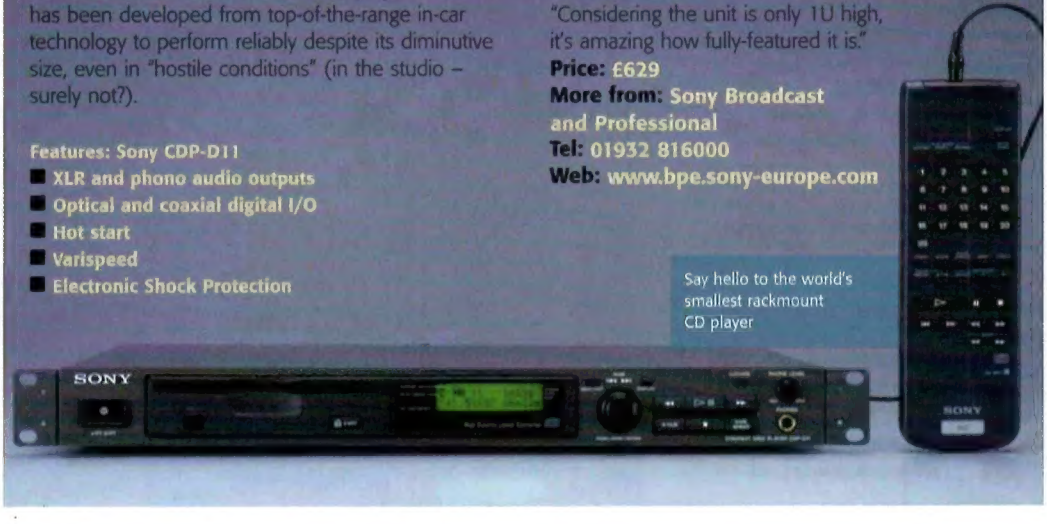
New CD player from Sony

Space-conscious studio owners might like to check out the new Sony CDP-D11: at only 1U high, it's the world's smallest rack-mountable CD player. The D11 has been developed from top-of-the-range in-car technology to perform reliably despite its diminutive size, even in "hostile conditions" (in the studio – surely not?).

Total Audio Solutions have ordered the first 50 units to reach these shores, and boss Peter Knowles commented "Considering the unit is only 1U high, it's amazing how fully-featured it is."

Price: £629
More from: Sony Broadcast and Professional
Tel: 01932 816000
Web: www.bpe.sony-europe.com

Features: Sony CDP-D11
- XLR and phono audio outputs
- Optical and coaxial digital I/O
- Hot start
- Varispeed
- Electronic Shock Protection



Say hello to the world's smallest rackmount CD player

Interface in the place

More USB products from Roland

Roland, under their new Roland ED brand logo, have released two brand new USB interface boxes for making music on the PC. Following on from their UA-100 processor, which featured both MIDI and audio, the two new products are more cost-effective, with one being a dedicated audio-only interface while the other deals solely with MIDI.

Features: Roland UA30

- **44.1kHz/48kHz sampling rate**
- **16-bit/24-bit digital outputs**
- **24-bit internal DSP**
- **Direct guitar/mic input (1/4" jack)**
- **Stereo line I/O (RCA phonos)**
- **S/PDIF optical and coaxial digital I/O**
- **Headphone jack**
- **Slider volumes for line in and guitar/mic input**
- **Peak and signal indicators (line in and guitar/mic)**
- **Output level indicators**

UA-30

The UA-30 is a USB audio interface with full duplex audio connections to a PC, and Roland claim that that it can be used to get the highest quality analogue and digital audio in and out of a computer without the noise and interference associated with soundcards. The self-powered UA-30 works at the moment with PCs, but Apple iMac/iBook and blue & white G3/G4 users will be supported as soon as MacOS 9 is officially released.

UM-2

The UM-2 is an ultra-compact MIDI interface for any USB-equipped computers and features two sets of MIDI connections (two in, two out) catering for up to 32 separate MIDI channels.

Prices: **UA-30 £199; UM-2 £93**
More from: **Edirol**
Tel: **0181 956 2224**
Web: **www.edirol.co.uk**

Line up for VocALign

Quick-fix software now available as a plug-in

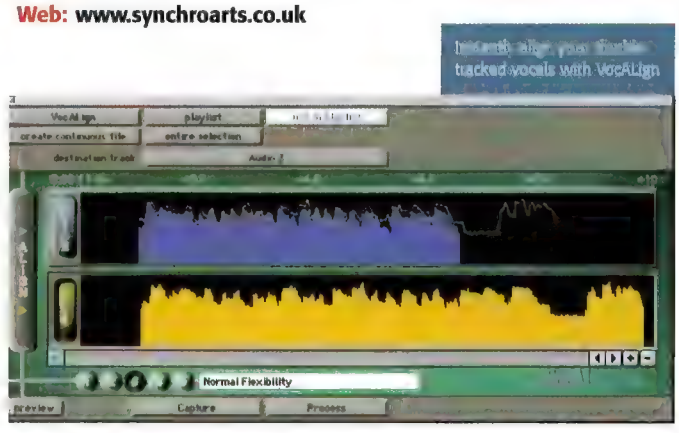
If you've ever been frustrated by wittering away hours in the studio trying to compile the perfect doubled vocal from dozens of takes, or having to throw away brilliant performances that aren't sync'ed properly, you haven't been using Synchro Arts' VocALign. It's the only software that can automatically and instantly align the timing of double-tracking, overdubs and replacement dialogue.

Now there's two new versions of VocALign available: the VocALign AudioSuite plug-in, and VocALign Pro, aimed at the post-pro user, which includes the AS version, the original standalone version (updated to run with all Pro Tools software) as well as Time Mod, a time-stretching/compression algorithm.

Producer and remixer Andy Gray can't contain his enthusiasm: "VocALign AS is unreal, and one of the most powerful AudioSuite plug-ins ever. It's amazing for fixing up vocals and backing vocals, but since the AudioSuite version is so fast and easy to use I have been trying everything through it, creating some mad-sounding and morphing effects."

Special upgrade prices are available for existing VocALign users. Look out for a full review in a forthcoming issue of *The Mix*.

Prices: **VocALign AS £351; VocALign Pro £703**
More from: **SynchroArts**
Tel: **01372 811934**
Web: **www.synchroarts.co.uk**



in brief

New software for ADI-96 PRO

The RME ADI-96 PRO is a 24bit/96kHz DSP-based A/D converter. A BeOS version of its control and visualization software, formerly only available for Windows, has just been released. The software can be downloaded for free from RME's website (www.rme-audio.com) and, amongst other functions, turns the ADI-96 PRO into a 30-band audio analyser.

More from: JoeMeek
Tel: 01626 333949
Web: www.joemeek-uk.com

Royalty-free samples

Anyone a bit concerned by the small print on some sample CDs regarding the issue of copyright (and obviously none of you would knowingly break the law) should look out for eJay's Soundcollection Volume 1. Offering a massive 7,500 royalty-free samples, all in WAV format, the collection comes with a Soundbrowser that allows easy location of samples by sound, style, BPM, tempo and instrument. 26 music styles are covered, including techno, big beat, hip hop, reggae, jazz and pop, so there's something for everyone on this bargain sample collection. And worry not if you can't make it to your local music store, 'cos you can buy the collection at Tesco!

Price: £19.99
More from: FastTrak
Tel: 01923 495496

I-CON improvements

Owners of Allen & Heath I-CON mixers, namely the DP1000 and DL1000, can upgrade to their new Version 2 software for free. The console's internal gates and compressors can now be viewed on a per-channel basis, FX1 and FX2 have been improved, and there have been further simplifications to the I-CON's operating software.

More from: Allen & Heath
Tel: 01326 372070
Web: www.allen-heath.com

Beam me up!

Turn the movements from your very own body (or someone else's) into MIDI data

Why not control your MIDI with sonic pulses – how many times have we all asked ourselves that?

Let's face it – the best gear comes with knobs on, and if it doesn't, then a MIDI controller such as the Peavey PC1600X or the Kenton Control Freak will give you the 'hands-on' control you need. Alternatively, for the ultimate in control, take things a step further with Soundbeam, a movement-to-MIDI converter.

Soundbeam was first introduced in Frankfurt in 1988, and has since notched up over 1,200 users worldwide. It's manufactured by EMS, the same guys who brought us the VCS3 and Synthi A back in the late '60s. So far, high-profile users have included Kraftwerk and Jean-Michel Jarre. After years of customer feedback, The Soundbeam Project moves on, unveiling the new and improved Soundbeam 2, offering enhanced possibilities for expressive and imaginative music making.

Soundbeam works by sending out streams of ultra-sonic pulses, then listens to echoes from solid objects in their path, calculates the distance and speed of the interruptions, and converts them into instructions for playing electronic musical instruments. That's all well and good, you might say, but in real terms, what does it all mean?

Well, imagine the possibilities for controlling all manner of MIDI parameters. Set the Soundbeam to control, for example, the filter cutoff on an analogue-style synth, then simply move your hand, or any other available appendage, nearer to or further away from the sensor to open and close the filter. The applications don't stop there, though. Anything that can be controlled via MIDI can be controlled by Soundbeam – up to four sensors can be plugged into just one Soundbeam unit, and with two parameters controllable from just the one sensor, up to eight parameters can be controlled with the full complement of sensors. Add to that the additional eight analogue controllers that control more parameters via switch boxes, meaning that up to 12, er... musicians... can play simultaneously on their own MIDI channels.

The maximum range of the sensors is 6m, but these can be placed up to at least 100 metres away, ensuring those cartwheeling performance artists can happily trigger all manner of sounds with no danger of interrupting their neighbour's beam.

As well as all this real-time, movement-based MIDI control, the Soundbeam can be used in conjunction with a MIDI-controllable lighting rig, and developments are underway to add even more control by harnessing muscle movements of the human body itself. Sounds intriguing.

Price: from £1,622
More from: The Soundbeam Project
Tel: 0117 974 4142
Web: www.soundbeam.co.uk

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enowned as a manufacturer of pristine, high quality solutions for the professional audio society, our heritage encompasses more than 20 proud years of now-how in developing cutting-edge digital technology with state-of-the-heart sound quality – combined with the world's most sophisticated, yet ntuitive, user interface. For those of you who also consider our Ultimate Sound Machines to be more expensive than the average run-of-the-mill processor, we got some good news...

WIN! Soundscape Mixtreme 2000 Digital PowerPak

A complete sampling, recording, synth, loops, mixing and FX package for your PC

When it comes to serious PC audio, Soundscape are the leaders of the pack. Back in issue 52 we got our hands on their Mixtreme card for the first time, and editor Chris Kempster summed up his review by saying "We've had multi-channel PCI cards before, but Mixtreme stands apart from all of them in that it offers the basis of a complete high-quality audio system."

Now, Soundscape and *The Mix* will be giving away a Mixtreme 2000 Digital PowerPak to one lucky reader. A powerful combination of the Mixtreme card and PC audio and Windows software that integrates sampling, recording, synth, loops, mixing and FX, the 2000 Digital PowerPak contains more than £1,250 worth of audio products.

The PowerPak can be used on its own with a Pentium II PC or can be added to Soundscape's 24/96 32-track R•Ed Recorder/Editor or the SSHDR1 professional workstations.

Here's what this tasty package includes:

- The Mixtreme card, with 16 channels of 24-bit digital I/O on Tascam TDIF connectors, allowing you to connect your PC directly to the digital console of your choice. If analogue is your bag, then the IBOX 2 Line can be combined with other Soundscape interfaces (not provided) to provide up to 16 channels of analogue I/O
- Nemesys Gigasampler LE, a cut-down version of the software sampler
- Acid Style, Sonic Foundry loop-based sequencer. Included are 100 of the most popular loops from the Sonic Foundry loop library
- MicroLogic AV Mixtreme. 24-bit, 16-channel MIDI/audio multitrack recording, designed by Emagic exclusively for the PowerPak
- Sonic Foundry SoundForge XP stereo wave editor
- Seer Systems SurReal synth engine
- Soundscape's 24-bit mixing application, with 16 digital busses, customisable mixers, real-time zero latency, plug-in FX and total recall
- Wave Mechanics Reverb, a real-time plug-in
- Soundscape Audio Toolbox, a real-time DSP-based multi-FX plug-in that includes compressors, limiters, expanders, gates, chorus, flanger and digital delays

How to win!

To be in with a chance of winning this fabulous PC recording package, just read the question below and send the correct answer and your full contact details (including name, address and daytime telephone number) on a postcard to: Soundscape Compo, *The Mix*, Future Publishing, 30 Monmouth Street, Bath BA1 2BW. Entries must be received by 1 May 2000.

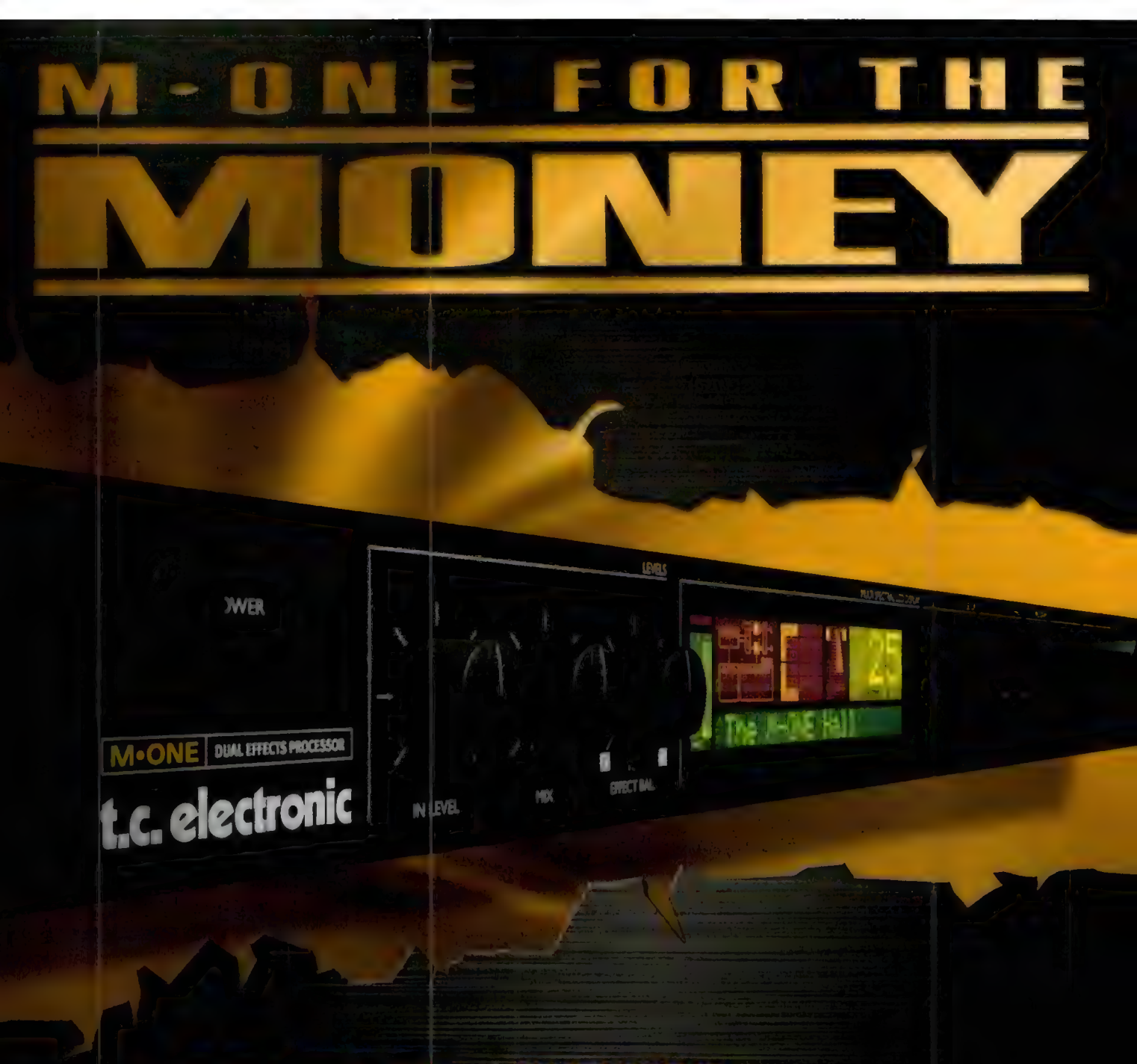
Question: The Mixtreme card offers:

(a) 16 channels of 24-bit digital I/O
(b) 24 channels of 12-bit digital I/O
(c) 24 channels of non-stop sporting action
(d) all of the above

The Rules

1. Employees of either Soundscape or Future Publishing, or their relations, are not allowed to enter.
2. One entry per reader.
3. The editor's decision is final. No correspondence will be entered into.

M-ONE FOR THE MONEY



M•ONE
DUAL EFFECTS PROCESSOR

BEHIND THE COOL LOOKING EXTERIOR OF THIS REVERB

- lie more than 20 years of know-how and experience in supplying the demanding professionals of the audio industry with solutions!
Now, with the introduction of the M•ONE we add a brand new feature to our multi-award winning Ultimate Sound Machines: Affordability!

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- Have more flexibility to create cool quality effects
- Have instant control of all vital parameters right at your fingertips
- Shortly put: Get right down to the business of making music instead of wasting time programming

YOU NEED TO CHECK OUT THIS MACHINE INSTANTLY!

MAIN FEATURES

- 20 incredible TC effects: Reverb, Chorus, Tremolo, Pitch, Delay, Dynamics...
- Analog-style User Interface
- Presets: 100 Factory/100 User
- Dual-Engine™ design
- 24 bit A/D-D/A converters
- S/PDIF digital I/O, 44.1-48kHz
- 1/4" Jacks - Dual I/O
- 24 bit internal processing

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Musicians and Producers 2000

Community Music, the London collective that helped launch the careers of Asian Dub Foundation, Nikki Yeoh, and Everton Nelson amongst others, is approaching the second year of its Musicians and Producers scheme.

Aimed at fostering the professional development of individuals wishing to enter the music industry, the scheme allows artists access to training, production and professional advice via a specially-tailored programme of work.

More from:
Community Music
Tel: 0171 234 0900
Web:
www.communitymusic.org

Year of the artist

Ooooh! You thought the countdown to the year 2000 was too much to bear. Well how about the countdown to the Year of the Artist, then? Er... perhaps a little enlightenment is in order.

Starting in June 2000, the Year of the Artist, or YOTA, aims to 'raise the profile of all areas of artistic creativity', be it in the field of performing arts, literature, film or combined arts, to name a few. The idea is to raise the status and profile of all "living" artists – by "placing 1,000 artists in residence in 1,000 unusual, surprising and unpredictable places throughout England".

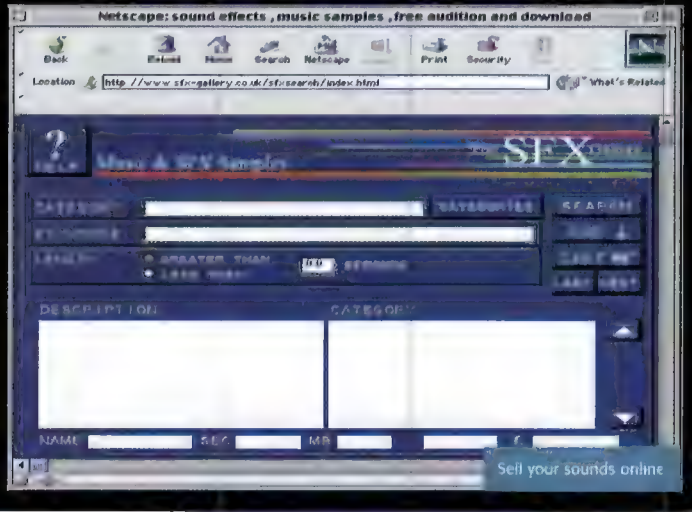
For anyone who hasn't guessed, YOTA is not only the work of the English Arts Council, but features input from the Arts Councils of Scotland, Wales and Northern Ireland. So this summer expect one-man-bands and mime artists at a shopping centre near you. Can't wait!

More from: Arts 2000
Tel: 0171 240 1313

SFX Gallery needs your sounds

Calling all sound designers! The SFX Gallery online music sample library is looking for sounds. With over 1000 customers per day logging on to audition and purchase sound FX and samples, the Gallery needs to expand its content, hence it's looking for sound designers who want to either sell their sounds for a one-off price, or co-publish their sounds on the net with the Gallery. What's more, if you send in your DATs, 1/4", MiniDisks, CDs or CD-ROMs, the Gallery will categorise and digitise them free of charge.

More from: SFX Gallery
Email: info@sfx-gallery.co.uk
Web: www.sfx-gallery.co.uk

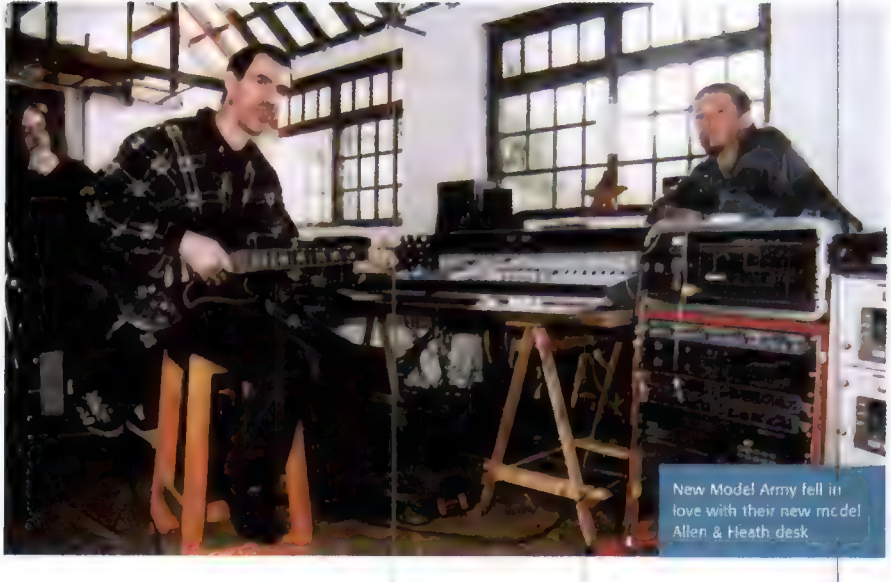


A&H called up for the 'Army'

Clog-wearing rock band New Model Army have invested in an 8-buss Allen & Heath GS3000 recording console and have put it to immediate use, combined with a trio of DA88s, in recording their latest album.

NMA mainman Justin Sullivan made the choice after extensively using an A&H 16-channel GS3 when mixing the band's live album. When a larger desk was needed, the 32-channel GS3000 was the obvious choice as Justin explained, "I like to keep things simple – my basic philosophy is that the less circuitry, the better the sound. The GS3000 is a great, straightforward desk. What really stands out for me is the really warm EQ, especially at the top end."

Price: 32-channel £4,700
24-channel: £3,804
More from: Allen & Heath
Tel: 01326 372070
Web: www.allen-heath.com



New Model Army fell in love with their new model Allen & Heath desk

D-TWO FOR THE SHOW

D•TWO
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BASED ON THE CLASSIC TC 2290 DELAY

- TC introduces the truly musical Rhythm Tap feature: Not only tempo, but actual rhythmical patterns can be tapped in directly. Or quantized according to a specific tempo and subdivision. Control the exact number of repeats with Absolute Repeat Control and specify repeats of up to one second each.

SIX UNIQUE DIRECT-ACCESS FEATURES

- SPATIAL – Experience extra wide delay with a single keystroke
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- REVERSE – Reverse Delay with the flick of a key
- DYNAMIC – Set release time and threshold to let the Input signal control the level of Delay – keeping everything nice and tidy
- CHORUS – Or perhaps you prefer Flanger? Hit one key and you've instantly added it to your Delay
- FILTER – Increase filtering as repeats decay

MAIN FEATURES

- Multitap Rhythm Delay
- Absolute Repeat Control
- Up to 10 seconds of Delay
- Presets: 50 Factory/100 User
- 24 bit A/D-D/A converters
- S/PDIF digital I/O, 44.1–48kHz
- 1/4" Jacks – Dual I/O
- 24 bit internal processing

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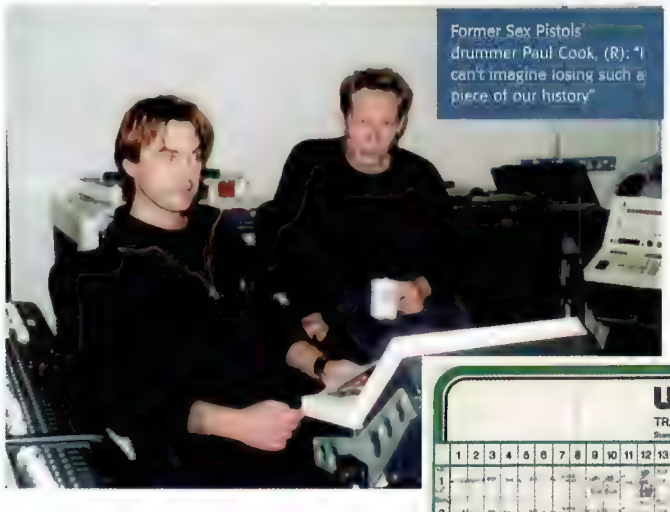
Sex Pistols tapes rescued

Warning! Make sure your master tapes are properly stored

The master multitrack tape containing the first-ever recordings of punk legends the Sex Pistols narrowly escaped destruction recently, because of improper storage. The tapes were unearthed for audio post-production on the forthcoming 'Pistols documentary *The Filth and The Fury*, but sound engineers from post-pro company Videosonics were gobsmacked to find that when placed on the machine, the tape shed its oxide and proceeded to grind to a sticky halt.

Videosonics Chief Engineer Smudger was on hand, and describes the experience: "I can't tell you what that feels like. You're expecting to hear the first murmurings of a seminal band in music history, you're looking ahead at the video monitors, waiting for the playback and you hear this awful squeal behind you as the hardware grinds to a halt. Everyone in the control room just stared at each other open-mouthed. Fortunately I'd experienced this before and called Protape, who arranged for the multitrack to be baked and copied to BASF tape, then we were back in business. We were lucky, but for a few heart-stopping moments we thought something very valuable had been lost forever."



Former Sex Pistols' drummer Paul Cook, (R): "I can't imagine losing such a piece of our history"

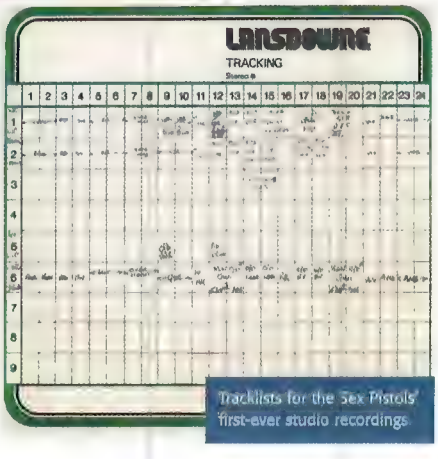
Protape's Richard Symons commented "It's certainly not uncommon to have to bake tapes. Depending on storage conditions, any magnetic media can last as little as 10 years or as long as 50 years. Analogue and digital reel-to-reel stock is actually fairly robust as far as storage media go, with digital perhaps the little more fragile of the two.

"The call from Smudger was really just an example of that wake-up call anyone who holds intellectual property should have already received. The key is to make sure your masters are kept in a controlled storage environment with a stable temperature and low humidity. All the media we store information on slowly degrades by reacting with oxygen it finds in the atmosphere – via either air or moisture. Pollutants and temperature variations make matters worse. Don't kid yourselves that digital storage or optical media is the answer; each has its drawbacks. In this instance we baked the original and straight away made an analogue 2" and 1/2" digital copy using BASF tape for the best of both worlds."

Chris Roberts of Dreamhire says that record companies are often aware of the problems in their archives, but perhaps don't give the issue the attention it deserves. "We tend to end up copying a collection only in a reactive situation, for instance where a retrospective or compilation album is being put together or the company finds that the tapes have deteriorated. The majors all seem fairly aware of the issues with older tapes, but I suspect many of the independent labels should be reviewing the situation. They have smaller, much more manageable archives and now is the time to make sure they are in good condition."

Protape's Richard Symons says that the increased use of medium and small-format tapes for mastering over the past decade has led to even more problems. "ADAT, DTRS and DAT are extremely fragile and set up to work within extremely tight tolerances and there are often compatibility issues between machines of the same format (a DAT recorded on one unit may not play back on another), let alone the deterioration that occurs over the course of time. We've got many customers with Radar set-ups who'll back up onto Exabyte and run a 2" safety master.

"Our industry in general is extremely focused on creation and distribution – there's a lot of pressure to get the product out *now*. What we need is a little more attention on making sure we'll be able to redistribute the product in 20 years' time when the next consumer format comes along. For that you need to create a good master that's carefully stored."



Tracklists for the Sex Pistols' first-ever studio recordings

The Filth and the Fury director Julian Temple was shocked when he heard what had happened. "I've been researching the film for years and of course I was there when the whole punk thing happened, so I'm very close to the material," he said. "To think that something so recently recorded may have perished was heartbreaking. Apart from the obvious value of that particular recording, the implications are frightening. Basically our musical heritage is disintegrating as we speak."

Sex Pistols drummer Paul Cook flew over from the US to hear the recordings. "It was great to hear the playback from our original 2" masters," he said. "I can remember those sessions like they were yesterday. I'm glad we were able to save the masters – I can't imagine losing such a piece of our history."

More from: Protape
Tel: 0171 291 0891

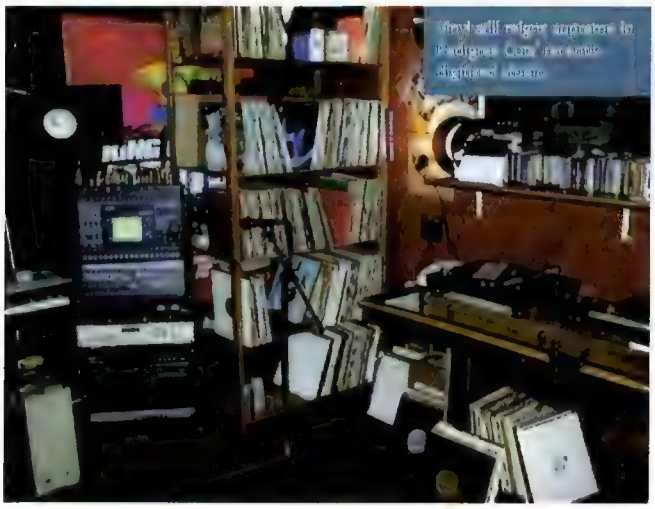
Mucho digital

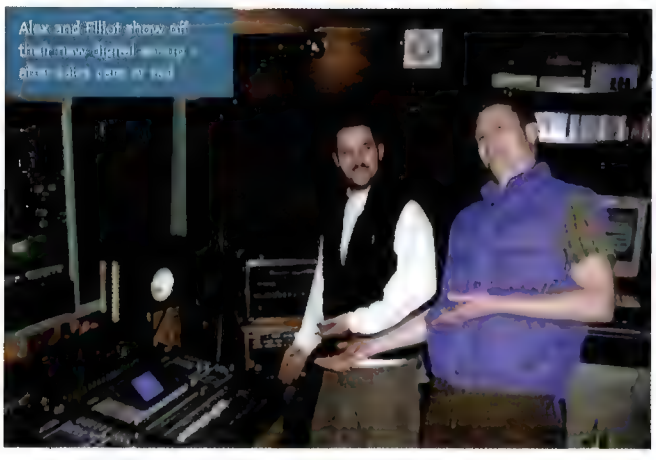
Used gear supremos Funky Junk grow new digital arm

Digiblah, the new digital arm of Funky Junk, have recently supplied two digital set-ups to Alex and Elliot, a.k.a. Pedigree Cuts, the North London production team behind the Latin hit 'Mucho Mambo'. Their analogue console and racks-full of outboard gear were exchanged for two Yamaha 02R digital mixers cascaded together, with the digital audio transferred to the computer via a MOTU 2408 core system.

Digiblah's after-sales care, however, was sadly not needed, as Elliot explains: "We plugged it all in and thought 'Shit, the fuckers work. We wanted the back-up you offered." There's probably a moral in there somewhere, just don't ask us what it is...

More from: Funky Junk
Tel: 0171 609 5479
Web: www.funky-junk.com





TLM103

Neumann budget beaters

Neumann. No other name comes close. And here's some remarkable news. There's now a choice of microphones bearing the proud Neumann name, but at new, surprisingly un-Neumann-like prices.

NEUMANN TLM103. A classic Neumann large diaphragm microphone for transparent, detailed recording and reproduction. Perfect for vocals, acoustic instruments, even amp miking and drum applications.

NEUMANN SERIES 180. Three flexible compact Neumann microphones – K183 omnidirectional, K184 cardioid and K185 hypercardioid. Quite simply, a range to cover any recording or broadcast application.

True Neumann magic on a budget.

So, if you're serious about sound, there's now no excuse. Don't be tempted by cheap imitations, visit your local Neumann dealer and get the real thing.

Neumann

Neumann, FREEPOST, High Wycombe, Bucks HP12 3BR.
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email: info@sennheiser.co.uk Web: www.neumann.com

Xpress yourself

Multiple MIDI control zones with Kurzweil's new XM-1

Kurzweil get in on the ol' MIDI controller game with the launch of the new XM-1 ExpressionMate, a powerful MIDI controller that comes in two parts: a desktop control box and a separate ribbon controller.

The control box transmits on up to three MIDI channels, and provides the facility to connect a breath controller input, two footswitches and two programmable front panel buttons. Up to three arpeggiators can be sync'ed to MIDI, and can run synchronously or asynchronously with real-time user control.

Rhythmic templates are provided. Also housed in the control box are two MIDI ins and outs with merging, and it can accept input from an XYZ pad controller.

The ribbon controller, on – or is that in – the other hand, is 600mm long and can be used as a single controller, or alternatively split into three independent zones. As far as MIDI information goes, the ribbon can send note on/off, MIDI controllers, tempo and more on a 'per-zone' basis. Each of the three zones can act as a macro controller, tracking positively or negatively, with different scaling for each.

Price: £399
More from: Arbiter Pro Audio
Tel: 0181 970 1909
Web: www.arbitergroup.com

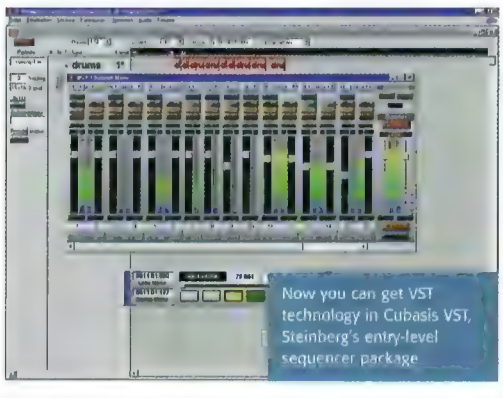
It's a new type of MIDI controller altogether "It's a new type of MIDI controller"

Cubasis goes VST

Steinberg have been busy shoe-horning Virtual Studio Technology, or VST, into their entry-level sequencer. Previously known as Cubasis AV, the new version, known simply as Cubasis VST, grips the imagination like never before.

The price doesn't change, but the features do. There's up to 32 audio tracks and 64 MIDI tracks with associated mixing pages, virtual instruments such as polyphonic synths, drum machine and physically modelled bass guitar, pro-style scoring facilities, Wavelab Lite for audio editing, and CD burning software, just to round things off nicely. The additional facility to import REX and TRK audio files means that Cubasis VST can match the audio files and tempo of the song automatically. A Pentium II 300MHz with 128Mb RAM is recommended to run the software.

Price: £99
More from: Arbiter Pro Audio
Tel: 0181 970 1909
Web: www.arbitergroup.com


Now you can get VST technology in Cubasis VST, Steinberg's entry-level sequencer package

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DAWSONS
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DIGITAL VILLAGE
Barnet Tel: 0181 440 3440
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Croydon Tel: 0181 407 8444
DIGITAL VILLAGE
London W3 Tel: 0181 992 5592
EDDIE MOORS MUSIC
Bournemouth Tel: 01202 395135
GIGSOUND
London SW16 Tel: 0181 769 5681
THE GUITAR & AMP CENTRE
Brighton Tel: 01273 676835
KGM / SOUND CONTROL
Wakefield Tel: 01924 371766
THE M CORPORATION
Nottingham Tel: 0115 9474070
THE M CORPORATION
Ringwood, Hampshire Tel: 01425 470007
MUSICAL EXCHANGES
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SERIOUS AUDIO
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SOUND CONTROL
Bristol Tel: 0117 934 9955
SOUND CONTROL
Dunfermline Tel: 01383 733353
SOUND CONTROL
Edinburgh Tel: 0131 557 3986
SOUND CONTROL
Glasgow Tel: 0141 204 0322
SOUND CONTROL
Leeds Tel: 0113 242 6601
SOUND CONTROL
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London NW1 Tel: 0171 485 4908
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HHB

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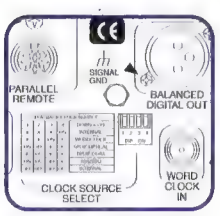
COOL FRONT. SERIOUS BACK.

HHB CDR850 CD RECORDER

One look at the back panel and it's easy to see why the HHB CDR850 leaves other CD recorders where they belong: in the bedroom! XLR and RCA analogue inputs and outputs, an AES/EBU digital input, optical and coaxial SPDIF digital I/Os and parallel remote control, the CDR850's comprehensive connectivity perfectly complements its class leading sound quality and ease of use.

And if you work entirely in the digital domain, the new CDR850 PLUS adds a Word Clock input and a balanced digital output to the CDR850's already very impressive spec.



CDR850 PLUS adds a Word Clock input and balanced digital out.

Before you buy a CD recorder, it pays to check around the back. See both sides of the HHB CDR850 at your nearest dealer.

A full range of HHB high performance CD-Recordable media includes the world's first fully Orange Book compatible 80 minute CD-R and CD-RW discs, plus 74 minute Silver, Gold, Printable, Bulk Packaged and Re-Writable discs.

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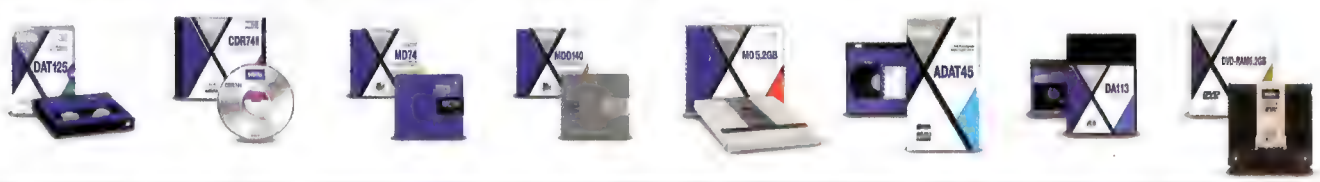
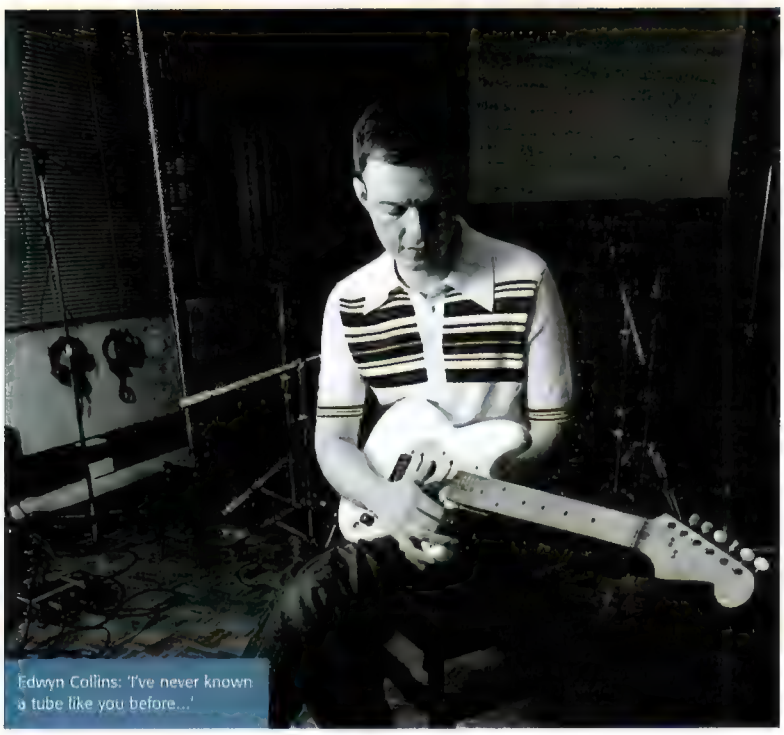
FIRST WE LISTEN

Don't forget to record on the best: HHB Advanced Media Products



Rip it up with TLA



Edwyn Collins: 'I've never known a tube like you before...'

Aren't enough people using TL Audio gear yet? Edwyn Collins is the latest recruit, having recently bought an Ivory 5051 voice processor for his own West Heath Studio in London. As well as being pressed into use for Collins' own recording projects, West Heath has recently played host to acts like Echo and the Bunnymen and Terrorvision, whose 'Tequila' single was recorded there.

Edwyn commented on his choice of TL Audio processing, saying "I was very surprised at the variety of effects and the versatility of compression that the 5051 is capable of. It really does have a sound and character that I find is missing in a lot of current audio products, and as a creative tool it offers a lot of possibilities. We've been using it to over-compress instruments like Wurlitzer electric pianos and also to provide overdriven valve effects on a variety of sources.

"The 5051's EQ section is great too – I'd say it compares very favourably with the Neve 80 series EQ that I'm fond of using."

The 5051 will be right at home in the former Orange Juice frontman's studio, which is famous for its wide selection of vintage and esoteric audio gear, centred as it is around a custom Neve 36/2 console and a Studer A800 24-track machine.

More from: TL Audio
Tel: 01462 680888
Web: www.tlaudio.co.uk

WIN!

Sonic Foundry Vegas Pro

Multitrack media editing system worth £399!

Fancy getting into multimedia design? Then you could do worse than to get your hands on a copy of Sonic Foundry's Vegas Pro (reviewed in *The Mix* issue 70). Its many applications include music composition, film scoring, broadcast editing and internet content creation and authoring.

We have two copies of Vegas Pro to give away. If you're feeling lucky, answer the question on the right on a suitably cheesy postcard and send with your full contact details to Take Me to Vegas, *The Mix*, at the usual address. The first two correct entries drawn out of the hat will win. Entries must be received by 1 May 2000.

Features: Vegas Pro

- **Simultaneous multitrack record and playback**
- **Virtually unlimited tracks**
- **Non-destructive editing**
- **Supports multiple file formats/sample rates/bit depths**
- **32 assignable DirectX FX sends**
- **EQ and compressor inserts on every channel**
- **Imports/supports WAV, AIF, MOV, MPG and BMP formats**
- **Exports/saves WAV, AIF, AVI, WMA, ASF, RM and MP3**

Question:

Nicholas Cage starred in which of the following films:

(a) *Leaving Las Vegas*
(b) *Leaving Las Hortechuelas*
(c) *Leaving Lassie*

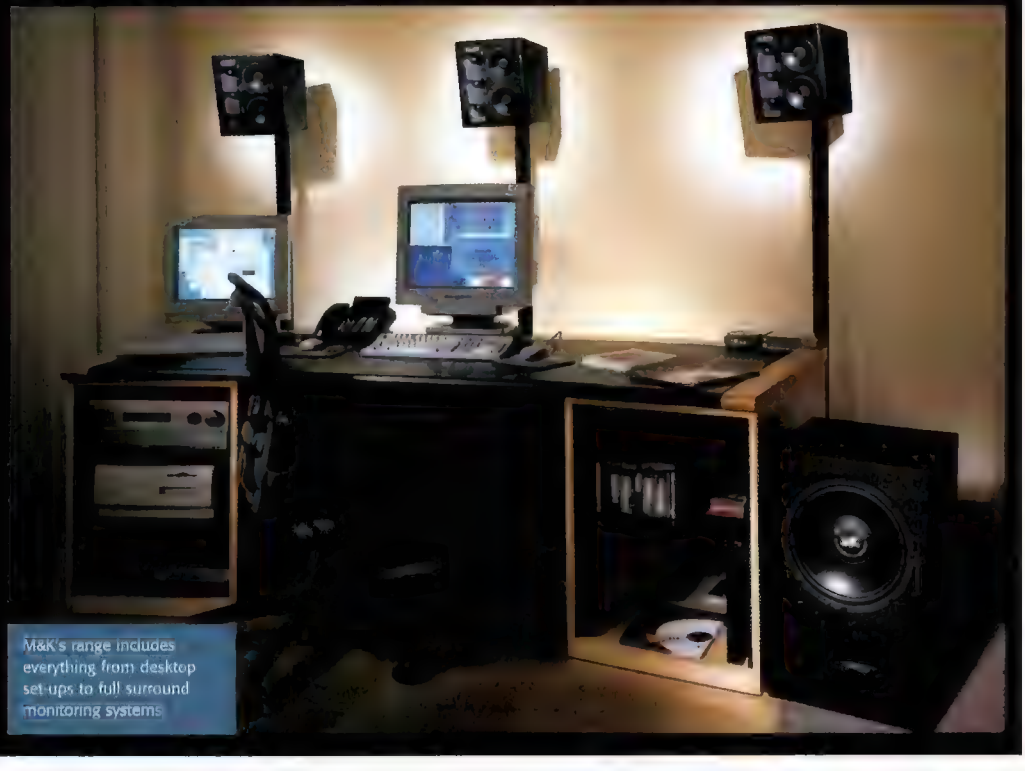
M&K hit the UK

Monitor market hots up with new player in town

Miller & Kreisel Professional (M&K) monitoring systems aren't well-known in the UK, but they may be soon, thanks to a distribution deal with London-based Pure Distribution.

The recently-introduced MPS series of studio monitors consists of five complete systems to handle monitoring environments from desktop studios right through to large control rooms, which are completely scalable from mono to complete 7.1 multi-channel audio. The monitors also feature a Phase Focused Crossover to deliver sharp imaging over a wide listening area. No more huddling round the sweet spot, then!

Prices: £TBA
More from: Pure Distribution
Tel: 0171 328 0660

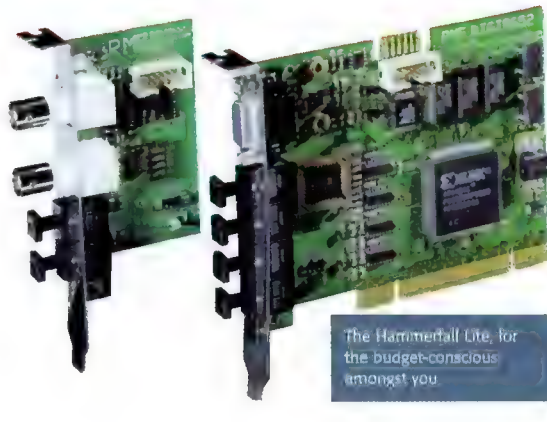


M&K's range includes everything from desktop set-ups to full surround monitoring systems

Let the hammer fall

JoeMeek, distributors of the German-made RME digital audio products, have announced the Hammerfall LE or 'Lite' computer interface card. The card is based closely on the Hammerfall Pro but is aimed at the budget-conscious. It features zero latency monitoring, 2x ADAT optical I/O, S/PDIF I/O and ADAT sync via a 9-way D-connector. An optional expansion board allows upgrade to Hammerfall Pro specifications by adding an extra ADAT optical I/O and a wordclock in/out interface.

Prices: Hammerfall LE £399
Expansion board £149
More from: JoeMeek
Tel: 01626 333949
Web: www.joemeek-uk.com



The Hammerfall Lite, for the budget-conscious amongst you

in brief

VAT trap

Due to increased co-operation with Europe, coupled to a general fondness for red tape, the VAT situation for performance artists throughout the EU could technically be described as a 'bloody nightmare'. So to make sure you don't get caught out on your latest tour round the member states, make sure you peruse *VAT for the Entertainer*, a free booklet outlining this often-overlooked but always exciting part of the tax laws of Europe. Send an SAE to Liesl Woolschot, VAT Group, Baker Tilly, 2 Bloomsbury Street, London, WC1B 3ST for more details.

Get on track

FX Rentals are taking their delivery operations to the forefront of technology, fitting satellite tracking to all their vans in a bid for more efficiency. So when you ring up to ascertain exactly how long your (urgently needed) package will be on the road, they will be able to accurately pinpoint its latest position on a global chart.

More from: FX Rentals
Tel: 020 8746 2121

New band-in-a-box

Band-in-a-box, the software package that aids musical composition, is now up to version 9.0. The new version has over 50 new features, including a digital audio track for recording live vocal or instrumental parts. 20 audio plug-ins are also included to give your projects that 'studio-quality' polish.

More From: Arbiter
Tel: 0181 970 1909
Web: www.arbitergroup.com

On the net

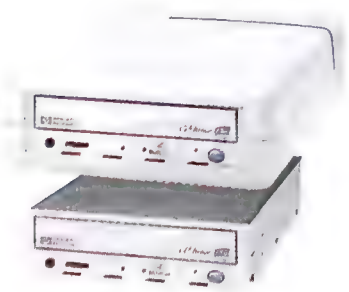
Beyerdynamic have a new website – and hopefully the English version will be working by the time this issue of *The Mix* finds its way into your hands. Check it out at: www.beyerdynamic.co.uk

Then you should be saving your masterpieces on the new HP CD-Writer Plus 9210 with ACID. It's the very latest digital audio loop-sequencing software for Windows. And it comes FREE with every new HP CD-Writer Plus 9210. These new SCSI drives from the World's No.1 in CD-Writers bring you ultimate performance. So unleash your genius now.

Think you're the new Mozart?

Save your world on CD.

HP CD-WRITER PLUS 9210 SCSI SERIES
8X4X32X



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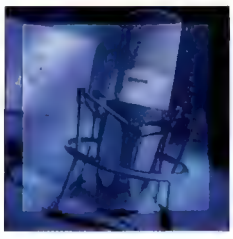


open mic

Got something on your mind? Well, here's your chance to have your say. *Open Mic* is an interface between you, other readers, the audio industry, and us. So let's be 'avin your letters, then!

sound bites

Don't just sit there reading and fuming. Write to *Open Mic* and join in our furious debates on the hottest topics of the day...

We've been talking to drum'n'bass guru Rob Playford this month, who told us "As technology has moved on, the roles of people in bands have moved on, and we've come to the point where the producer and the engineer are part of the band. They create just as much, if not more, than the actual band does. The artists are the instigators, the imagination and the front, and I certainly don't class myself as an artist, but someone – an interface – to make dreams possible."

Comments?

Write to us:
Open Mic,
The Mix,
Future Publishing,
30 Monmouth St,
Bath
England
BA1 2BW

Or email us:
themix@futurenet.co.uk

Skip dis

It is the first time I have read *The Mix*. It's wonderful by all means, but guys, the demo of the month from Skippy has a wrong beats! The second snare for instance, and at least four other segments (listen at 6'24 – it's amazing) of the filtered groove in the middle section have wrong tempos, or lack quantization. And it never stops! Did he do it by hand on a turntable? How can someone 'skipp' that in electronic computerized music? Is the section a selected demo or any demo? Your magazine should 'skkiipp' such stuff!

JP Mendoça, by email

Well, the quantise buttons on sequencers are easy enough to find these days, so we can only assume that Skippy chose not to follow the robotic path of most of the other dancefloor androids out there. Having said that though, on hindsight, it does sound, er... in need of a little tightening up. But hey, maybe we're all just missing the point completely...

Andrea Robinson, Deputy Editor

Cubase blues... the ongoing saga

The *Open Mic* debate about Cubase 3.7 has been raging for the past few months now, sparked off by João Castro's letter in issue 69. This month, two more Cubase users add fuel to the fire...

The suspect caught on CCTV leaving the scene of the crime

All software has bugs. As Mr Castro admits, he is new to Cubase. I, on the other hand, am not. I have been with the PC version of the program since Cubase Audio 1.6 and have seen it go through a number of more or less stable versions of the program. Ian Waugh was right to call VST 3.7 one of the more stable versions. In the six months I was running it on both a PII/333 and a PIII/450, it didn't crash once. In the month or so since the release of 3.7R1, Cubase has crashed at least a dozen times.

However 3.7R1 *has* fixed the Direct X bug and another, less well known, 'memory leak' bug. So, it's now less stable but works better (when its working). It's also, apparently, slightly less resource- hungry than 3.7, so you can load more tracks/plug-ins before things start breaking up.

What I'm trying to say is that even Pro Tools has bugs. As long as a software package isn't so buggy that you can't use it, live with it or find another method. After all, its only poor workmen who blame their tools.

Boff, by email

Having read your review of Cubase 3.7, I decided to upgrade my rather ancient copy of 3.1. I sent off my hard-earned dosh and, lo and behold, the CD turned up. I installed it and with bated breath clicked on to the icon, the splash screen popped up and then the PC locked. I rebooted, same thing. Tried again, same thing. Formatted my PC, reinstalled from scratch, downloaded all the latest drivers, got shouted at by my girlfriend who by this time was begging to wonder if I would ever emerge from the loft, still no joy. Called a mate with a copy of Cubase 3.5. Installed it, ran it, fine.

I rang the support desk with the intention of ripping the tech to pieces. To be fair, I found the support guy very helpful, it's just his response I found annoying. "It's your graphics card" he said. "We can only definitely say 3.7 will run on ATI graphics cards". So off I popped and bought an ATI Expert 98. Ran 3.7 no problem, my Audiowork 8 now crackles occasionally and will drop out for a few seconds after Cubase has been running for an hour or so. This is down to memory, so I now need to increase my PC's memory to 128 megs. I installed R1, and lo and behold, Cubase locked.

It seems that Cubase 3.7 R1 does not like the Audiowork 8 ASIO driver (I tried several versions and the same thing happens with all of them). In fact, it

seems that Cubase 3.7 does not like an awful lot of things. I like the program, I love the flexibility, I just think that the programmers should be shot. I work in the IT industry and have had to deal with an awful lot of very finicky software, but never in my time in the IT industry have I come across something like this. This is a very badly-written piece of code. Several of my friends have asked if they should upgrade or switch from Cakewalk, and I have had to say no, because they have a stable system that they can actually get on and make music with. What's the point of ASIO 2 and virtual instruments and all the other bells and whistles, when continual technical problems crush all your creative impulses!

Mark Holverson, by email

School daze

I wrote to you about a year ago complaining about the lack of university courses for Music Technology. I am now out of school, and have just finished my first term at The University Of York on their Electronic Engineering With Music Technology Systems (EEMTS) degree course. I have to say that the course is absolutely fantastic, brilliant fun, and more than worthwhile. The university (and in particular the Department Of Electronics) deserve congratulating for their efforts to provide a course that is valuable for aspiring engineers and is also of a very high quality.

How about an article detailing the opportunities available in higher education? It seems, as I said in my last letter, that without some sort of qualification these days, you are very unlikely to get anywhere.

Martin Hughes, by email

The old 'education versus hands-on experience' argument is a well-worn one, but to be honest, I have to come down on the side of the 'traditional' route into music. Doing a music course, or an engineering course, is definitely not a guarantee of making it in the industry. Many studios like to train up their engineers themselves, since they'll have certain ways of doing things, and they don't really want some cocky graduate coming in thinking they know everything about everything. It's the same with being a musician – some of the best players I know have never taken any exams, and it hasn't hindered their careers. Conversely, some very well-trained musos can't (or won't) ever forge a career as a pro musician.

There are benefits to technology/music courses. Firstly, it gives you time to work out which area of the business you really want to go into – engineering, playing, media, management – there's probably lots of related areas that you might enjoy and be good at, not necessarily just the dream job of being a record producer. It also gives you time and opportunity to cultivate your industry contacts, especially if you're in a city with lots of studios and music going on. This last point is probably the most important of all, since so much in this business is done through word-of-mouth, and you need to know as many people as possible. So get educated, by all means, but don't think it guarantees you a career in the recording industry.

Chris Kempster, Senior Editor

Giz a job! Does gaining a qualification help or hinder in the quest to get a job in the music industry?

Sponsored by SHURE microphones

Win this ace baseball jacket

The author of the best letter we receive each month wins this fabulous Shure baseball jacket. So get thinking and writing – it could be you!

letter of the month

Back in the days

I've noticed that there seems to be an ongoing debate in the audio press about the merits of using all-in-one sequencer and recording packages like Cubase and Logic. The usual complaint is that sitting in front of a computer screen somehow stifles creativity. Well my answer to that is a resounding 'bollocks!'. I've been writing and recording music for almost 30 years and at the risk of sounding like the *Monty Python* character who lived in a cardboard box in t'middle of road, have to say that you've never had it so good.

Back in the '70s when I started out there was hardly any affordable recording equipment. How we rejoiced when the first 4-track portastudios and drum machines appeared, but they were limited and still cost a lot of money relative to the average wage of the time. Now you can, for a relatively small outlay, use sequencing, sampling and digital recording systems to create great-sounding music using the sounds of every instrument under the sun, all in the comfort of your own home. Luxury! How can anyone complain about that? I will concede there is a much steeper learning curve involved in using this equipment, and that does take time and effort that perhaps could be better spent playing an instrument or composing, but once you know how to use it there's a whole world of magic at your fingertips. It's not what you use, it's how you choose to use it that matters. Cubase, Logic and the like are there to be used – they are merely tools.

Biff, by email

Couldn't agree with you more, Biff. Everyone today has access to affordable, quality recording technology, and there really isn't any excuse for not being able to produce good quality audio/music. If you don't like computers, then stick to your tape machine and mixer. If you find software 'stifles creativity', then spend some time learning it inside out, so it becomes transparent in the creative process. Naturally, something as powerful as Logic or Cubase needs an investment in time to learn how to use it. But that's true with anything worthwhile. People don't complain that they can't play like Tiger Woods five minutes after buying their first set of clubs, do they? It took him 10 years of total dedication to get that good. It's the same with gear – you need to learn it well to get the most from it. And if you can't be arsed to put the effort in, then I suggest you're in the wrong business – why not take up darts instead?

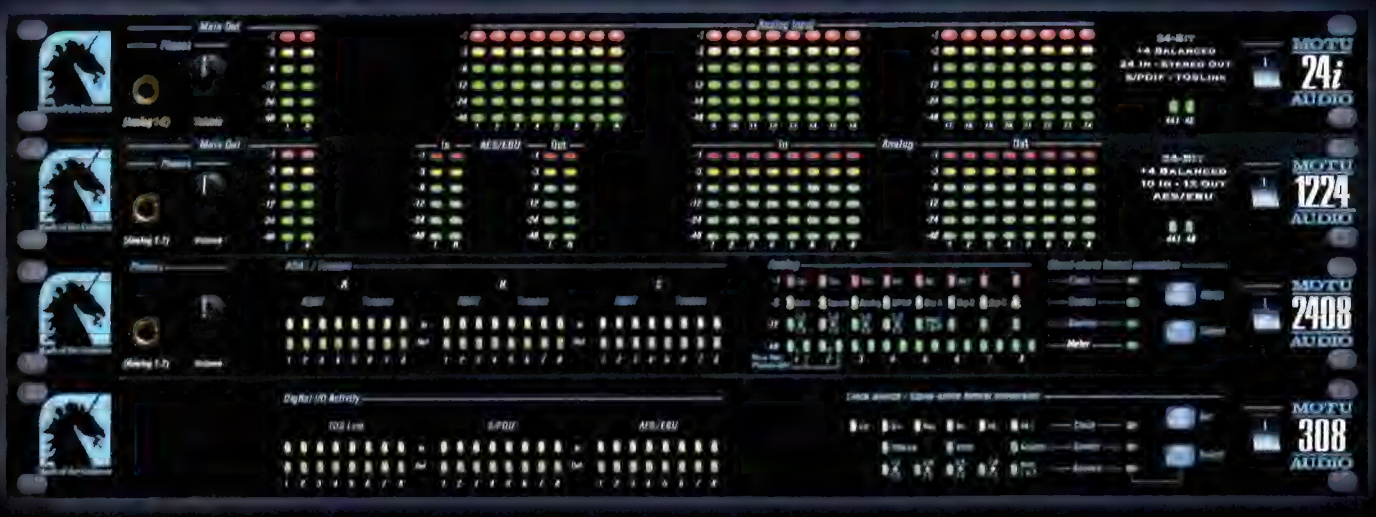
Chris Kempster, Senior Editor

PCI-324

72-channel, Cross-platform PCI Audio Card

meet the 2408 system.

it's growing...



You've seen the 2408. Perhaps you own one.

Now it's grown into an interchangeable system of affordable core systems and expansion I/Os.

It's expandable — connect up to three rack I/Os to a single PCI card for 72 channels of input/output.

It's compatible — Mac/Windows, ASIO, Wave & Sound Manager drivers for your favorite audio software.

It's affordable and configurable — core systems start at only £995; begin with the system that's just right for you.

The 2408 I/O (£695) — 3 ADAT lightpipe (24 ch), 3 Tascam TDIF (24 ch), analog (8 ch), S/PDIF & sample-accurate sync.

The 1224 I/O (£995) — 24-bit analog (8 ch) with 116 dB dynamic range; quality that rivals even the most expensive I/Os.

The 308 digital I/O (£749) — 24 channels of 24-bit digital, AES/EBU (8 ch), S/PDIF (8 ch), and optical S/PDIF (8 ch).

The 24i I/O (£1195) — Twenty four 24-bit analog inputs (!), switchable +4/-10, in one affordable rack space.

The MOTU hard disk recording system for Macintosh & Windows — why settle for anything else?

MOTU

Hard disk recording

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reviews

This month: Korg's D16 all-in-one digital recording system in a box, virtual microphones from Antares and a real one from Audio Technica, high-end dynamics from Avalon and more...

Who tests the gear

Our team of equipment reviewers are all audio industry professionals, experts in their chosen fields – engineers, producers, musicians, software specialists and audio journalists. This means that you can trust the opinions expressed in our reviews.

How the gear is tested

Wherever possible, the gear we test is used in actual sessions. Indeed, some of the biggest-selling records this year will have acted as testbeds for our reviewers. We believe that to truly evaluate kit properly, it needs to be tested in studio conditions – not a dark room!

Impartiality

Reviews in **THE MiX** are in no way biased towards certain manufacturers. We will deliver an impartial verdict on a product whether or not a manufacturer advertises in this magazine. Our first duty is to you, the reader, and our goal is to give you the best possible advice on buying equipment. We will not hesitate in exposing sub-standard equipment.

THE MiX EDITOR'S CHOICE

Products that are judged to be outstanding by our reviewers are awarded the 'Editor's Choice' tag. In a standard review, this means that the product offers exceptional performance for the price it retails for. In group tests, there may be two awards – 'Best Performance' and 'Best Value'. The 'Best Performance' award will go to the product that offers the best performance irrespective of price, while the 'Best Value' award will go to the product that offers the best price/performance ratio.

Korg D16

Digital recording studio

Price £1,499

For Excellent user interface › Good complement of effects › Very portable

Against EQ a little disappointing › Faders a bit small › Built-in mic of limited use

Verdict A very small, but very groovy studio-in-a-box

A few years ago, it would have been the stuff of dreams. To have a portable, digital studio with effects, digital mixing with recall, and built-in mastering – what a vision. Then, a few years ago, Roland launched the incredibly successful VS880, which spawned a whole series of products. The appeal of these 'studio-workstations' was that everything was in one box – no cabling required, no computer to boot up and no effects or processors to connect up. Everything you need for recording and mixing in one box – an all digital, hardware solution.

Korg jumped into this market with their own D8. An 8-track studio workstation with slightly limited mixing capabilities, the D8 sold well to musicians who were looking for a modern answer to the trusty cassette 4-track. Having a built-in, yet basic drum machine made it easy to write songs on, and then maybe play them to the rest of the band later.

Well, that was then, and this is now. Enter the new Korg D16, a fully-featured 24-bit 16-track digital studio. Looking similar to the D8, it differs in that the D16 has a lovely large angled touch-screen as well as 13 faders on the front panel.

Overview

As the D16 weighs only 2kg and measures just 357 x 245 x 72mm, it really could fit into a Cornflakes packet, and the overall look of the D16 is very slick indeed. Finished in metallic blue with backlit buttons and that great backlit touch-screen, it really looks the part. The connections are all there too: inputs 1-2 are on XLR/jack combination, with the jack part being TRS balanced. Inputs 3-8 are all on unbalanced jacks, and there's also a dedicated guitar input on 1/4" jack. The master outs are on RCAs, as are the monitor outs.

The D16 also sports a single auxiliary out on an unbalanced jack, as well as the usual phones output on stereo 1/4" jack. The inclusion of S/PDIF I/O on optical connectors allows the transfer of all audio in the digital domain, a must for this kind of product. The MIDI I/O are located next to the SCSI port, which enables the connection of an external hard drive or a CD-R burner. Inputs 1-4 are to be found along the front edge of the console along with the headphones socket, a footswitch socket, the guitar input and an expression pedal socket. Also located here are the corresponding gain controls, which use a thumbwheel-type control.

The channel faders are all 50mm throw, which is a bit too small for some work, but a necessary evil if you need to cram it all into a box this size. The pan pots are a reasonable size and are centre detented for ease of use – can anything be more annoying than pan pots that don't? The data wheel and transport controls are all located at the bottom right of the console and feel very comfortable, giving access to just about anything with one hand. Another user-friendly device included in this section is the famous cursor-key controller, which is much like a joystick you work with your finger, and is perfect for flying around the screen at speed.

The best part about the D16's user interface is the fabulous touchscreen, or 'Touchview', as they call it. You can select most pages and parameters simply by touching the corresponding icon on the screen, making short work of navigation, especially for people who are new to this type of machine.

Let's take a look at the input channels. By pressing Input you get the first eight channels input selection page. This is a nice graphic representation of a jack plug with the input number on it, and you can select from 1-8, or the Rhythm symbol (more on this later). At the bottom of the screen are little tabs that allow you to select channels 9-16, a guitar tuner page and input EQ, all using the touchscreen. The input EQ page looks the same as the playback EQ page, but is, in fact, a separate thing.

The EQ page is perhaps one of the D16's downfalls. The screen shows four channels worth of EQ at one time, represented by four 'virtual' rotary controls, one for Hi cut or boost, one for Lo cut or boost, and two for the swept Midrange. The absence of any more control in the Hi and Lo bands is frustrating, but the lack of a

words **Sean Vincent** images **Gavin Roberts**

The smallest digital 16-track recorder money can buy – Korg's diminutive D16

specifications

Tracks
16 (8 in 24-bit mode)

Virtual tracks
112

Recording
8 simultaneous tracks in 16-bit mode, 4 simultaneous tracks in 24-bit mode

Recording format
16/24-bit uncompressed, 44.1KHz

Mixer processing
32-bit, 44.1KHz

Recording time
Maximum 6.5 hours on (supplied) internal drive

Number of songs
100 per drive

Locate points
4 per song

Mark points
100 per song (can be named)

Scene memory
100 per song

EQ
Hi 10kHz ±15dB
Mid 0.1-20kHz ± 15dB
Lo 100Hz ±15dB

Effects
Insert x 8, Master x 2, Final x 1 (98 algorithms 106 effect types)

Frequency response
10Hz-20kHz

A/D conversion
24-bit, 64x oversampling

D/A conversion
24-bit, 128x oversampling

decent screen view seems odd when the rest of the screens are so good – a basic EQ curve view would have been nice. But it's worth bearing in mind that this is a preview prototype model, so maybe it'll be better with the full release software.

Also under the EQ page is the phase selection page. This simply gives the option to reverse the phase of the channel – an often overlooked feature, which can be very useful.

The next page is the insert effects page, which gives you the option of inserting up to eight individual effects into the input channels or playback tracks. There are 128 preset effects to choose from, and they are all pretty good.

The next page is the master effects screen. What's this all about? Well, with the D16 you get up to eight simultaneous insert effects and two master effects, as well as one final effect. Good, eh? The effects selection pages are all easy to use and navigate around using the touchscreen, but the best bit comes when you want to edit an effect. Just press the effect name on the screen and up pops that particular effect's parameters in a nice clear layout that is a joy to use. To find out more about the effects, see the box on page 32.

The Solo/Monitor page allows you to solo and select monitor sources, as you would expect, and the Meter/Track View page has a number of options for viewing your recordings, from pre-fader levels to post-fader levels, tracks 1-8, 9-16, or all at once.

What can it do?

With 16 tracks available for playback and eight simultaneous recording tracks at 16-bit, you'd think most people would be happy with that, but no. Korg also give you the option of recording at 24-bit resolution. Ok, so you only get eight playback tracks and four simultaneous recording tracks, but that's a lot of extra clarity if you need it.

The D16 comes fitted as standard with a 2.1Gb hard drive, but up to seven external drives can be added if you need the extra capacity or

Effects in detail

The effects onboard the D16 are quite impressive. With 128 preset insert effects, 32 preset master effects and 32 preset final effects, you've got a lot to play with. These effects are made up from 98 algorithms and 106 basic effect types. They range from reverbs to multi-tap delays, ring modulators and stereo compressors. The Analog Record preset is the sound of an old piece of vinyl on a record deck. This is editable, so you can select 33/45/78 rpm – what a great idea for giving your tunes that authentic hip hop feel.

The Mic simulator is another useful effect for engineers on a tight budget. As seen on Roland's VS range, these take a signal from a cheap dynamic mic and make it sound like it was recorded using a range of classic condenser mics. Another popular effect is the guitar amp simulator which, like the mic simulator, emulates the sound of classic guitar amps.

The wah effect can be controlled by connecting an expression pedal to the D16, again a good option for guitarists. All the delays are excellent and if you need some more EQ, there's a 4-band parametric, which you can insert in stereo or mono.

Special effects like vocoders and talking modulators are included, as well as some great 'final' effects – including '60s and '70s type compression for that authentic retro feel.

Overall, the effects are excellent and are constructed using Korg's REMS technology (a kind of acoustic modelling for effects). To store your own effects, there are 128 user memories for insert effects, 32 for master effects and 32 for final effects. One word of warning, though – the D16 does not save edited effects as part of the song, so you must always remember to store the effects separately.

Get signals in and out with ease – analogue, digital, SCSI and MIDI all come as standard

removability. The standard 2.1Gb gives you 6.5 hours of recording time, which is fine even when split over16 tracks, running at 44.1kHz quality.

The 24-input, 8-buss mixer has one externally routed auxiliary, which can have its return routed to the master output or to a track, and the scene memory can hold up to 100 scenes per song, which is more than enough. The MIDI implementation allows the D16 to sync to MMC (MIDI Machine Code) and receive scene changes and tempo maps (200 points per song) as well as transmitting MTC (MIDI Time Code) and MIDI Clock.

All the usual editing facilities we've come to expect from hard disk systems are available, including time compression and expansion, as well as reverse and track swapping. The maximum four locate points per song is a bit tight, but you also get 100 mark points per song as compensation for this. These mark points can also be named, which is very handy.

As found on other digital workstations, you have the bonus of 'virtual tracks' – extra tracks that can be recorded like any other, but you're still restricted to 16 on playback. With the seven virtual tracks per 'real track', you can keep multiple takes when recording and choose the best later, or compile a composite take on another track. With 128 tracks in all, you soon begin to realise the power of this feature.

The main system editing buttons are kept to a minimum, coupled as they are to Korg's 'Touchview' touchscreen

Active rhythm

One of the endearing aspects of Korg's D8 was the inclusion of a basic drum machine. The D16 follows in this tradition and has a pretty good drum machine to play with. It may be all preset patterns, but there's 215 of them as well as 96 different metronome patterns.

It must be said, although some of the patterns are a bit comical and some of the sounds themselves are a bit dodgy, this is an excellent feature. If you're writing a tune on your own with a guitar or a keyboard, you can just jam along with the drums until you find a suitable beat and then record it along with your composition – a great idea for musicians on tour who can then add more parts later. The patterns range from 8-beat rock to jungle and house. The rock patterns are created with an acoustic-sounding kit and the more electronic beats are done with contemporary-sounding drum samples. All in all, a great feature.

As you may have noticed from the photo, there is a built-in mic on the front panel, assignable to inputs 1 or 2. We can see that this was a good idea to give the D16 even more appeal to musicians on the move, but it appears to be scuppered by the noise from the hard drive – the clicking from the drive vibrates straight through the casing to the mic itself. Never mind. It's still ok for getting an idea down before you forget it.

In use

When the D16 first arrived at the studio, there was no manual supplied, but after a day's playing with it, we had it almost completely sussed, largely due to the very friendly user interface, which is both simple and intuitive. The three demo songs included are a good starting point for learning the basic techniques involved as far as editing and mixing on the D16 goes, as well as a useful way of checking out the range of effects.

Setting the D16 up to record eight tracks at once is easy, and once recorded, adding overdubs onto the remaining eight tracks is just as simple. The built-in dynamics (like compression and limiting) work well and sound very quiet, as do the reverbs and delays. The EQ, as mentioned earlier, is not as versatile as it could be, but it sounds fine anyway.

Copying and moving tracks is incredibly easy, and once you've mastered it, becomes a useful way of arranging the best takes into the right order. This whole 'cut and paste' method of working may

The powerful new E-5000 sampler.

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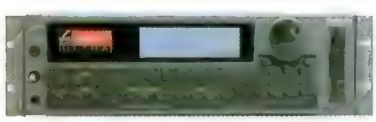

The E-5000 is also supported by a number of useful options: EOS Link, for remote control from your computer, ADAT I/O, D-WAM Board (Digital I/O, Wordclock, 2nd MIDI, ASCII) and, not forgetting, the huge E-MU sound library.

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How far have we come?

As an indicator of how far technology has come in recent years, we thought we'd give you an idea of what you would have needed to replace the D16 only a few years ago.

Firstly, you'd need a 16 track tape machine. The only digital systems available would have been tape based, like ADAT or Hi8 systems. These would have cost you about £2,000. And of course, you'd need two of those.

Then you'd need a 24 channel mixer. Something like an 02R has recall, but you're looking at about £4,000, so an analogue desk would probably have been a more viable option. You could probably pick one up for about £1,200.

A selection of compressors, gates and limiters would set you back about £1,000. The effects would have cost a fortune. Just four stereo processors would cost you about £1,200.

Then you'd have had to get a drum machine. Even a basic model would set you back about £100, and a tuner would set you back about £30. Last of all, you need to consider all those tape costs.

So many newcomers to recording don't realise how much studios used to spend on tape – we really are spoiled these days. So with a total so far of £7,550, we're getting somewhere near, but we still haven't included cables or 4-way plug adapters!

Ok, so the system above would be slightly more flexible than the D16 and upgrading would be easy, but you get the point. Digital workstations are a godsend to musicians and engineers on a budget or with a shortage of space.

All the usual transport controls you'll need are on the D16's tactile front panel

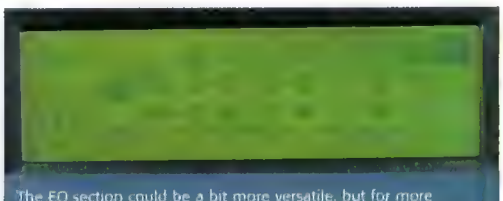
seem strange to some, but it's the way forward.

Dropping in to replace bum notes is no longer required. Just record another take on a virtual track, then paste the good part into the original track. And with 99 levels of undo, you don't have to worry if it doesn't sound right straight away.

Used in 16-bit mode, the D16 sounds good. We A/B tested against some other HD systems and found the D16 to be as good as, if not better than some of its competitors. Used in 24-bit mode, the sound has more 'sheen' to it, a bit more sparkle. This would be ideal for mastering your demos, but unfortunately, you can't burn a CD-R from them in 24-bit mode as CDs are always 16-bit. Still, you could always digitally transfer to DAT or a PC, then back again in 16-bit mode to burn your CD-Rs.

Effects editing made easy – use the touchscreen to navigate around the D16's comprehensive editing screens

There are some useful features hidden within the D16 that might make it appeal to a broader market than your average digital workstation. As mentioned earlier, there's a dedicated guitar input, tuner and drum machine. There's also an option to set up a playlist of all the songs in the memory – ideal for use as a backing track player for solo artists, or for dance bands looking for an alternative to using DAT live.


The EQ section could be a bit more versatile, but for more control, the effects section offers a 4-band parametric EQ

Another useful feature is an automatic sample rate converter on the S/PDIF input. If a 32kHz or 48kHz signal is detected, it automatically converts it to 44.1KHz. But perhaps one of the most useful little features is the auto save. Whenever you select a different song or turn off the machine, your current song is automatically saved for you, which can only save a lot of cursing after a late session.

Verdict

Judging by the way in which the D16 is laid out, with inputs along the front edge and with its built-in mic, drum machine and tuner, it would be fair to say that it is aimed primarily at musicians and the home recording market. In this role, the D16 will perform with ease, giving the user new technology previously unavailable in such a compact product.

It's testament to the skill of the Korg design team that this machine is so easy to use. A lot of newcomers to digital recording are put off by the steep learning curves of some of the equipment on the market, but the D16 is simplicity itself to use.

The inclusion of up to eight insert effects, two master effects, and one final effect is excellent. The effects themselves are also of a very high quality, although not quite as good as some we've heard lately.

On the downside, the compact nature of the D16 may put some more serious users off. The audio quality is excellent, but having to use 50mm faders and not having a more detailed EQ section may limit the D16's appeal to some. Another thing which would benefit all portable digital workstations is the inclusion of inserts. Although there are built-in dynamics, including compression and limiting, sometimes you really need to insert some external gear into the signal path. With the current popularity of recording channels and voice processors, it would be nice just to have even one insert assignable to any channel. Maybe next time.

Overall, the D16 comes out a winner, due to its ease of use and great sound. With the added benefits of CD-R burning capabilities and the provision for adding external drives, we feel sure it will be responsible for making lots of quality recordings in the future.

More from: Korg (UK) Ltd, 9 Newmarket Court, Kingston, Milton Keynes MK10 0AU
Tel: 01908 857100 Fax: 01908 857199
Web: www.korg.com

Antares Mic Modeler

Mic modelling plug-in

Price TDM £529 › MAS £351

For Great selection of mics that don't cost the price of the real ones › Simple user interface › Juicy-sounding tube saturation feature

Against Lacks the personal touch and quality of the real mics › Still a few obvious mics missing › Dynamics would be useful

Verdict Well worth the money. Allows you to do some weird and wonderful things with mics that most of us would never have thought of

If you've owned a home studio – even with the nicest equipment and surroundings – then you're bound to have wondered 'What if I just could bend the bank balance just a tweak further so that I could afford some sumptuous mics?' Now, this may seem strange to some, but if you think about it, most of our money would be best spent on the equipment that is actually closest to the sound source we're aiming to capture. Yet most of us will quite happily spend our money on a digital tape machine or mixer, or even a reverb, but then we go over to the mic cupboard and pull out a dented SM58 or a Tandy Classic.

THE MIX EDITOR'S CHOICE

This is fair in a way, because great results can be achieved with a cheap mic and great recording gear. Unfortunately, it doesn't work the other way 'round, though. A Geffel mic will still sound shite if recorded on a portastudio that's sat in a garage for 11 years – interesting, but shite. Admittedly there are things in between that need to be in place to get a good recording – preamps, compressors and reverb can all enhance our recordings, so maybe it's best that we have an even balance of everything. Easy to say, but not to pay. A good balance can be expensive.

So if someone walked up to you on the street and said 'Hey, you have a good tape machine and a nice desk, but your mics stink. Why not have this CD-ROM containing the greatest mics the world has ever seen for £500.' You'd probably turn around a say 'Yeah right, you're having a giraffe!' Well you'd be wrong.

The people that developed Auto Tune, which at the time was laughed at, have now done and done just that. In the same way that Amp Farm claimed that it could reproduce the great guitar amplifiers of the world, the guys at Antares are now claiming that they have a plug-in that will reproduce every classic and modern microphone that the world has ever seen, and few that it hasn't.

words **Seb Pecchia**

Overview

Well quite simply, we had to see and hear this thing, because that's one serious claim. We want to know how it works, what you need to work it, what it sounds like, and if it sounds like the microphones it claims to reproduce.

As a TDM plug-in, we ran our version on a Pro Tools 24 Mix Plus system with a Blue and White G3 450MHz – fairly top-end stuff but

CD info

track 05

We test the modelled versions of the Shure SM58, AKG C3000, AKG C414, and Sennheiser 421 against the real McCoys

If your [illegible] out Antares Mic Modeler

Supermodel

We had the opportunity to talk with Denny from Antares over in Los Angeles, who is very excited about the Mic Modeler. He explained that just recently Antares took a recording of a woman singing to Shure, that rather well-known microphone company in Illinois. They had recorded the vocalist via the SM58 option on the Modeler, then done a second take using a real SM58.

The guys at Shure were asked to A/B it and see what they thought of the recordings. They seemed convinced, commenting that they thought both recording sounded fine and that neither 'microphone' appeared to have any faults.

Denny also explained how the idea is growing: "We only recently sold our first Mic Modeler to a guy in South Africa. He called and said that a project he was working on depended on a particular set of mics that he could not get hold of, so he asked if he could try the Modeler out. He bought it, so I guess that means he was impressed.

"We're being inundated with loads of really strange mics as well – things we've never seen or heard of before. A guy in Auckland sent us some rare old Tannoy Ribbon mics, and these are now available."

The Antares website contains all the new additions, which can be downloaded straight to your desktop. Check it out: www.antares-systems.com

system requirements

TDM version:

- Mac with Power PC processor, system 7.0 or later
- Pro Tools 3.0 or higher
- Versions forthcoming for MOTU, Real-Time Audio Suite, VST and Direct X
- Hardware version available soon

As well as selecting the source mic and modelled mic, you can specify the polar pattern and distance from the sound source

at least we knew we would get the most out the gear. However, as a plug-in it will run on most good TDM systems, so there's no cause for concern.

Installation is as easy as pie. The version will run as a demo for 14 days, then you'll be required to authorise your copy. This actually means that you can't authorize your new product as soon as you get it, because it works using Challenge and Response coding. For anyone unsure of what this is, then here's a quick explanation for you: when Apple brought out the Imac and the Blue and White G3 they forgot – accidentally on purpose – to put a 3.5" floppy drive in them. At the time this was the most popular means of authorising software. So to combat this, the software manufactures (Antares included) came up with Challenge and Response, meaning that when you launch your program you are asked to enter a response to a challenge that is presented to you. Sounds a bit like Dungeons and Dragons!

So the challenge might be: PHEASANT SHOOT FIESTA MY FAMILY GONG DOG To which you will have to contact your supplier or Antares themselves via email or phone and they will tell you the response code, which will be something like HORSE NO HEAD IM KNIFE DON BED. It's a bit of a faff, but kinda fun.

So, with the install done, let's open a session and check it out. Unfortunately it doesn't appear in the Audio Suite, which is a shame because it could be used there in a variety of situations, adding a bit of 'quirkiness' to the plug-in. It appears as a plug-in over channels and this is where to access it.

In the drop-down menu it's called 'Mic Model,' but that might just be our system. To look at it's ok, not stunning, nor with a huge amount going on in it either. A grey-green window, split down the middle with an input fader on the left, an output fader on the right, and a tube-saturation control lying horizontally at the bottom. There are a couple of buttons that dictate the distance the modelled and source mics are from the sound, some drop down menus for setting the mics and patterns, and that's about that. So now we're ready to have a play…

Mic it up

The first concern that comes to mind with software that makes such claims is whether the actual mic manufacturers agree that the Modeler is any good. Well, please note that this software is not yet endorsed by any microphone manufacturer, but that's not to say it won't be.

The second concern is how to compare the Modeler with the real mics. 'It's impossible' would be the answer, because very few of us own such a collection (presumably Mr Antares does!). But we *can* have a small comparison session. The neat thing about this software is that firstly it analyses the original source mic, so for argument's sake, let's say a Tandy Special is the source, then it allows you to select the mic you wish to emulate.

For our comparison we used an SM58 as the source mic alongside the real things. As it's winter, the singing voice is a bit creaky, so we used a mixture of acoustic and electric guitars to run the tests – an Ovation and a Patrick Eggle were the instruments and a large Marshall Plexi was the amp.

The signal had to be smooth and clear, so the old Neve 1272 preamp was used to power the mics, and all signals were recorded flat to Pro Tools.

TC ICON

Icon - /aɪkɒn/ n **1** [An object acting as mediator between man and the ideal] **2** [A symbol having cultural significance and the capacity to excite or objectify a response]

SYSTEM 6000

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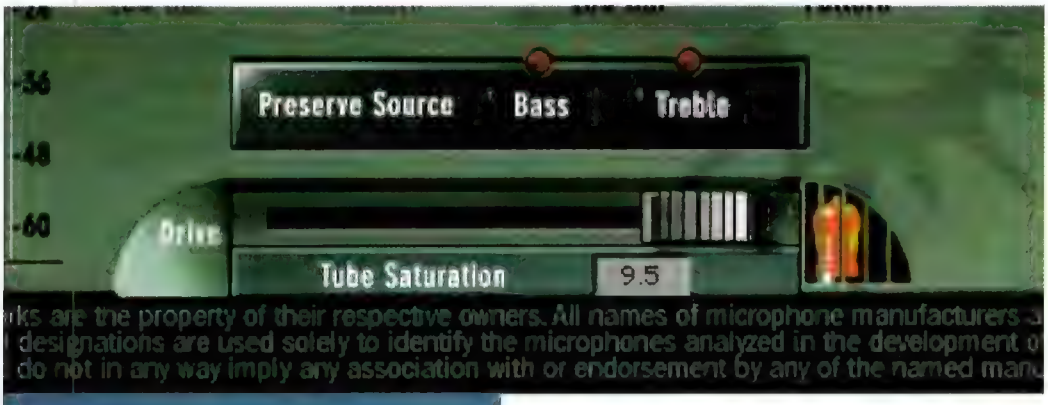


Give your SM58 a tube up the backside with the Mic Modeler's Tube Saturation effect

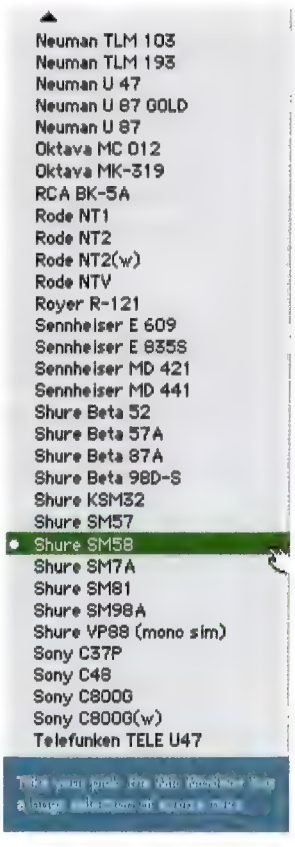
Antares use a bit of wizardry called the Spectral Shaping Tool (TM) Technology, which is supposed to create precise digital models of a wide variety of microphones, from historical classics to modern exotics, as well as a selection of industry-standard workhorses. Simply tell the Microphone Modeler what microphone you're using on the right side of the plug-in, and then tell it on the left side of the plug-in what microphone you'd like it to sound like.

In use the Mic Modeler was quite a surprise. The whole thing is a bit weird at first, because when you say your source is a Shure SM58, and you want it to sound like a C12, you miss out the bit where you get to wrap your fingers around the C12 and fondle it lovingly for a good half hour (but then that's what you pay the money for).

We modelled the following mics: an AKG 414ULS, a Sennheiser 421, a AKG C3000 and a Shure SM58 – all good mics that can be used in a host of situations. All fared well using the source mic, a Shure SM58 – you can hear for yourself on the cover CD.

The 414 model had all the clarity and spank you'd expect, and you can even select all the patterns. Does the mic have a low-cut filter? If so, it's in the model. Wind screen on or off? Proximity near or far? Each option results in the same sonic effect that it would have with the actual mic – well, pretty close anyway. But they don't completely replace the great mics, because they have a unique character of their own.

In the tests we ran there was always an underlying sameness about the Mic Modeler, but with the real mics each one has its own very distinctive personality, each suited to a different application. You can hear this on the CD: the modelled mics sound big and 'in yer face', while the real ones are smoother, more detailed and refined – a bit like vintage wine. Something pulls you toward the real ones. One Neumann can sound better than another as there are intrinsic, almost personal characteristics that the models will never quite have, but overall the Mic Modeler is very good. The proximity effects are good and the variety of mics is really vast (see list, left). There's also a lovely Tube Saturation effect that really fills the sound out and gives it sheen.



The best thing about it is the scope for experimentation without hassle – no stands or cables, but sonic change, just as if you'd switched the mics over. Antares also claim it can be used live... although the great sound of a top mic would probably get lost in the stink of an old pub on a Friday night, so best stick to the old saying – 'if it ain't broke, don't fix it'. On stage, a trusty ol' SM58 is as good as any. Who wants to drag a computer around with them anyway? But look out for a hardware rackmount processor, which should be available soon.

Verdict

With the Mic Modeler, you can afford to record every track through a model of the specific mic that will produce the sound you're looking for. The idea is great, although it does makes the decision of which mic to use that much more complex.

The quirky things are best, such as using it during mixdown to effectively change the mic on an already-recorded track, or creating bizarre hybrid mics that combine the bass response of one mic with the treble response of another. How about some tube saturation on that PZM – very cool! It's great for beefing up guitars and vocals and because of that, it does a little bit more than your average mic. Antares Mic Modeler is never going to beat the real thing, but when comparing it, you'll be hard-pushed to spot the difference.

More from: Unity Audio, The Elms Barn, Baythorne, Nr. Halstead, Essex, CO9 4AB
Tel: 01440 785843 Fax: 01440 785845
Web: www.unityaudio.co.uk

Mic range

Antares' collection of modelled mics keeps growing by the day. As we went to press, the list included:

- AKG C12A; C414; C414B/ULS Limited Edition Gold; C414B/ULS Modified by Audio Upgrades; 460B/CK61-ULS; D112; C1000S; D790; C3000; C4000B
- Alesis AM61
- Audio-Technica ATM-11; ATM-31; AT853Rx; AT3525; AT4047/SV; AT4033a/SM; AT4050; AT4055; AT4060
- Audix D4; OM2; OM3-xb; OM5
- B & K 4007
- Beyerdynamic M-500 Limited Edition Classic; MC-834; CK-703
- B.L.U.E. Blueberry; Mouse; The Bottle
- Brauner VM1
- CAD Equitek E100; Equitek E200; Equitek E350; C400s; VSM1; 95Ni
- Coles 4038
- Groove Tubes MD1
- Earthworks Z30x; TC30K
- ElectroVoice N/D357; PL20
- Lawson L47MP
- Manley Labs Reference Gold
- MicroTech Gefell UM 800
- Neumann U47; U87; U87 70th Anniversary Gold Edition; M149; TLM193; KM184; TLM103
- Oktava MC-012; MK-319
- RCA BK5A
- Rode NT1; NT2; NTV
- Royer R-121
- Sennheiser MD421; MD441; E609; E835S
- Shure Beta 52, 57A, 87A and 98D/S; SM7A, 57, 58, 81, 98A; KSM32; VP88
- Sony C800G; C48; C37P
- Telefunken U47

MOTU 1224 Core system

Multi-channel audio interface and PCI card

Prices see box, below
For Superb performance › Reliable › Versatile
Against Not multi-client › Poor software for Windows
Verdict A worthy addition to a very flexible system

Mark of the Unicorn have been producing hardware with both Mac and PC drivers for some time now. The Mac package is usually a well-endowed combination of hardware and supporting software, all of which is based in some way on their excellent Digital Performer audio/MIDI package.

Here, we're taking a look at the MOTU 1224 – the second of four interfaces (the 2408, the 1224, the 308 and the 24i) to be released for the MOTU Core system. The 2408 was the first unit to be released and provides, in total, 24 inputs and outputs. These are assignable in blocks of eight and can be configured as TDIF, ADAT, or analogue. The 308 again provides 24 inputs and outputs in blocks of eight, but this time with S/PDIF, AES/EBU, and TOSlink (optical). The 24i breaks with tradition and provides 24 analogue-only inputs, and finally, there's the 1224, which provides eight channels of 24-bit analogue I/O, plus AES/EBU stereo I/O and balanced analogue outputs.

The host card

Each of the units possesses a FireWire socket, which connects to the host 324 card, and up to three of the interface units can be connected to the 324 host adapter card. Any of the above units can be bought individually, or (with the 324 host card) as a Core system. The 324 is a small PCI card with three FireWire connections, one ADAT-sync connection, and one 8-pin DIN connector, allowing connection to MOTU's Digital TimePiece. Each FireWire connector can connect to any MOTU interface. Installation of the 324 PCI card was possibly one of the easiest we've ever had to perform, with no conflicts or glitches of any sort. Standard ASIO drivers as well as the arbitrary Windows MME drivers are provided, and once installed, you simply plug in the interfaces via FireWire and you're off.

The PC user is provided with two pieces of management software. Firstly, the rather daft-looking cue mix console – a handy little sub-mixer (but not necessary when using any of the major Audio/MIDI platforms such as Logic) and the dull-looking, but essential, PCI 324 console. This allows you to select the routing between any of the I/O of the units connected to the host card. This is, as a system, potentially the answer to all the interface problems of the studio PC, since you're able to purchase units entirely suited to your needs – very nice indeed!

Overview

The 1224 is a 1U rack. On the front you'll find a gold-plated headphone socket and volume control, plus left and right output meters. The AES/EBU left and right I/O meters and eight analogue I/O meters are next in line, followed by the power switch and sample rate indicators (44.1/48 kHz).

'Round the back is the AES mains socket and eight analogue inputs and outputs on 1/4" gold-plated TRS jacks (if only more manufacturers would use these in preference to the phono plug, as they're far more reliable and provide better contact). These are followed by the gold-plated wordclock I/O, the FireWire connector, an AES/EBU in and out, and finally, on balanced XLR, the main left and right outputs. The FireWire lead provided with each unit is 15 feet long, which is as it should be – it allows one to get the 1224 right into the patchbay, and avoids any unnecessarily long analogue connections. Installation was as easy as USB. If this is FireWire, we like it a lot.

In use

Plugging in both a 2408 and a 1224 presented absolutely no problem whatsoever and left us with the most ridiculous amount of inputs and outputs, as you can see in the screenshot on the facing page – 28 ins and 26 outs, and we still had room for another interface. Sonically, the 1224 sounded superb. This is one of those units you will be happy to plug a mic preamp straight into and get on with the job. The

words **Adam Fuest** images **Simon Dodd**

prices

- 2408 core system £995
- 2408 rack £695
- 1224 core system £1,295
- 1224 rack £995
- 308 £749
- 24i £1,195

specifications

Connections
8 x 24-bit balanced TRS analogue outs
2 x 24-bit balanced XLR analogue outs
8 x 24-bit balanced TRS analogue ins
AES/EBU digital I/O
Word clock in and out
Core system includes cross-platform 324 PCI card

Bit rate
16, 20 and 24-bit recording at 44.1 or 48 kHz

Dynamic range
Inputs 116 dB
Main outputs 116 dB

This could be the start of the mother of all modular systems for your PC

metering is a little on the crude side, giving only six increments, although the last three LEDs are calibrated for minus six, three and one dBm/0VU respectively. This lets you keep an eye on things well enough, although MOTU are presuming that the software you are using will have adequate metering. The 1224 does not possess the onboard DSP that so many cards flaunt these days, but as modern CPU processing is so fast, this doesn't pose an issue.

On a less positive note, the MOTU system is not Multi-Client. In other words, it can only be accessed by one application at a time. This is not such an issue for the Mac user, as the range of soft synths and samplers, available is not nearly as large as that for the PC platform. It's not an essential feature, but very desirable nevertheless, and with this number of potential outputs it could have made the system very flexible indeed.

We've reviewed this item as a Windows device and not as a Mac device. Although it's a cross-platform interface, it performs very differently on each platform. Mac users have grown used to the concept of modular systems as they've had these facilities from the likes of Pro Tools for some time, although even for the Mac this is an exceptional package. On the Mac it integrates perfectly into Performer, whereas on the PC we are presented with an almost unique, adaptable modular system of I/O for virtually any audio application.

Verdict

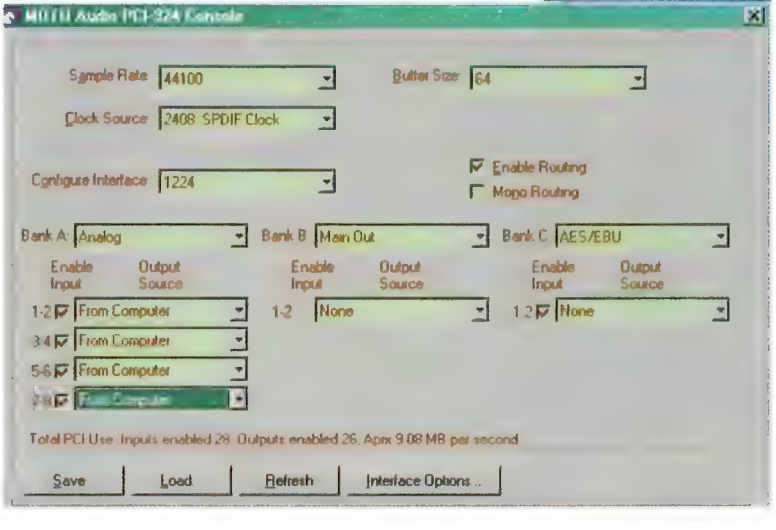
The 1224 Core system is a very high quality set of converters for your PC as well as a very good and reliable soundcard. But if seen as the start of a modular system, or even just adding two more 1224s to create a 30-input, 36-output 24-bit audio recorder, then it takes on a different role altogether. Just imagine three of these cards fitted in one of the new Athlon PCs with an IDE RAID card and a couple of fast drives – you would be driving one heck of a system, able to equal most platforms on the market. It is this adaptable nature that's so appealing. Another example would be the complete studio using a 308, a 2408 and a 1224 – this combination would give you all the possible 2-track, multitrack, and recording options you could ever want, and that's without even thinking about the 24i. So there you have it. This may not be the cheapest system on the block, but if you're relying on the PC for audio, then this is one of the safest bets around.

More from: Musictrack, 2 The Granary Buildings, Millow, nr. Dunton, Beds, SG18 8RH
Tel: 01767 313447 Fax: 01767 313557
Web: www.musictrack.co.uk

system requirements

Mac
- Any 604-based Power Macintosh or faster (G3-based Power Mac or faster is recommended)
- At least 32 Mb of RAM (64 Mb is recommended)
- One available PCI slot
- Mac OS version 7.6.1 or later
- A large hard drive (preferably at least 4 Gb)

Windows
- 200MHz Pentium CPU or faster (a Pentium II processor or faster is recommended)
- At least 32 Mb of RAM (64 Mb is recommended)
- One available PCI slot
- Windows 95 or 98
- A large hard drive (preferably at least 4 Gb)



How many more I/O could you possibly need – and there's still room for yet another interface

Avalon VT747SP

Stereo compressor and EQ

Price £1,874
For Excellent sound › Exceptional build quality › Twin signal path
Against No manual provided › No calibrations on graphic EQ
Verdict High-quality stereo compressor and EQ for adding a touch of class

Frankie Avalon was big in late '50s/early '60s USA, an anodyne teenage pop idol and star of several crap Californian beach movies (usually alongside Annette Funicello), including *Bikini Beach*, *How to Stuff a Wild Bikini* and the glorious *Beach Blanket Bingo*. There's probably no connection, but now there's another Avalon direct from California that should find its way into more studios than there are in Hollywood.

Avalon Designs have been around for a few years now (see box on page 45) and have recently added a new model to their small-but-select range. The VT747SP – how do they think up these names? – is a 2U stereo rack, combining a spectral opto-compressor with a 6-band program equaliser. Class A discrete transistor circuitry is used throughout the unit, but Avalon have increased the unit's versatility by providing what they call the Twin Signal Path (TSP), whereby three valves can be substituted for the transistors in key sections of the circuitry.

Overview

The 747 comes with no documentation whatsoever, and a quick call to distributors ASAP Europe confirms that Avalon do not supply manuals with their products. This seems rather elitist, the implication being that this is a machine for seasoned pros and experts only. While it has to be said that the operation is actually very straightforward and intuitive, the sidechain filters are a little unusual and warrant further explanation. Fortunately, Avalon do run an informative website where plenty of facts and figures can be found.

The 747 looks and feels very impressive, and is quite a heavy unit, partly down to the massive rear-panel heatsink and solid chunk of milled aluminium that makes up the front panel, making it the current front-runner in *The Mix* 'thickest front panel in rack-mounted pro-audio' contest, taking over pole position from last month's CLM Expounder. There are some unkind folks who have said it looks just like the type of tacky '70s hi-fi amp found in every junk shop in the country, but in the flesh it does actually look very classy, almost classical.

All the ins and outs are on balanced XLRs, there are binding posts provided for grounding purposes, and the top and side panels of the unit are vented, allowing adequate ventilation for the three onboard military spec Sovtek 6922 valves. Each of the 747's functions has its own pushbutton switch that lights up red when active, and while some of the control knobs are continuously variable, others are incremented.

Input level is set by a single rotary knob. The 747 is meant to be used in true stereo, so there is no provision for setting separate levels for the left and right signals. The knob has a range running from -20dB to +16dB, centre detented at 0dB, and there's an additional +10dB switch to push the gain up for working with lower level signals – always useful for driving the compressor harder.

The compressor is of the optical type, with a conventional array of threshold, ratio, attack and release knobs, but it also has spectral control over the sidechain for implementing frequency-conscious compression. Threshold is controlled by an incremented knob and is variable between -30dB and +20dB, while the ratio knob is similarly incremented and provides ratios from 1:1 up to 20:1.

Attack and release times are both continuously variable and simply graduated from fast to slow, which the documentation translates as 2ms to 200ms for the attack and

Breathing space
All the ins and outs are on XLR, and the top and side vents allow the valves to breathe

words **Trevor Curwen** images **Louise Broom**

The refined approach: add that final glow and sheen to a track with this classy performer from Avalon

100ms to 5 seconds for the release time. The amount of gain reduction is displayed on the large central VU meter in its oval window while, in the midst of all the controls, a small blue LED lights up to let you know when compression is taking place.

There are no external connections to access the compressor's sidechain, but a switch is provided to route onboard low and high-frequency parametric EQ controls into the sidechain path for frequency-conscious compression tasks such as de-essing or the taming of a particular frequency range in a mix.

Each band is controlled by two knobs; a threshold knob, which in both cases is continuously variable from -15dB to +15dB, and a frequency selector. The selected frequency in the low band can be anywhere in the range from 60Hz to 1kHz, while the high band covers the 600Hz to 10kHz range. A sidechain listen switch is available to monitor the effect of these EQs on the sidechain.

Bring on the valves

The switch for the 747's twin signal path (TSP) is located in the compressor section, and this brings three valves into the signal path. The valve circuitry takes the form of a single triode buffer stage in the compressor section directly before the make-up gain, and a dual triode output amplifier at the end of the signal chain.

An incremented make-up gain knob, which is variable from 0dB to +10dB, completes the array of compression controls.

To the right of the central VU lies the 747's equalizer section, a graphic EQ made up of six sliders and a switch to bring the section into the signal path. This 6-band section is nominally placed after the compressor in the signal chain, but this order can be reversed via a switch in the compressor section if desired. No calibration markings are provided for the sliders, although some legending off to one side is numbered from 1 to 3, either side of the centre-detented zero position. Each slider, in fact, supplies a different amount of cut and boost than its neighbour, with the exception of the two centre sliders, which both offer 4dB of cut or boost.

The first band, LF, offers a shelving response at 10Hz with 18dB of cut or boost. The next three bands cover the midrange and are of the peaking type, with a Q response that has apparently been chosen to provide the most natural harmonic balance and the lowest phase change. MF1 offers 6dB of cut or boost at 100Hz, while MF2 and MF3 each offer 4dB of cut or boost at 550Hz and 2kHz respectively.

The last two bands both have a shelving response and provide, in turn, 8dB of cut or boost at 5kHz and 16dB of cut or boost at 32kHz. Finally, a

specifications

Signal path
Solid-state or valve

EQ
6-band graphic

Headroom
36dB before overload

Ins/outs
XLR

Attack
2ms to 200ms

Release
100ms to 5 seconds

Ratio
1:1 to 20:1

Threshold
-30 dB to 20dB

Frequency response
1Hz to 200kHz

Dimensions
533 x 457 x 203mm

Weight 10kg

"The A/D linearity is simply excellent and compares favourably to many of the best converter packages available."

Frank Wells, Audio Media

"I found it lent itself particularly to big fat sounds, which just seemed to fall effortlessly out of it."

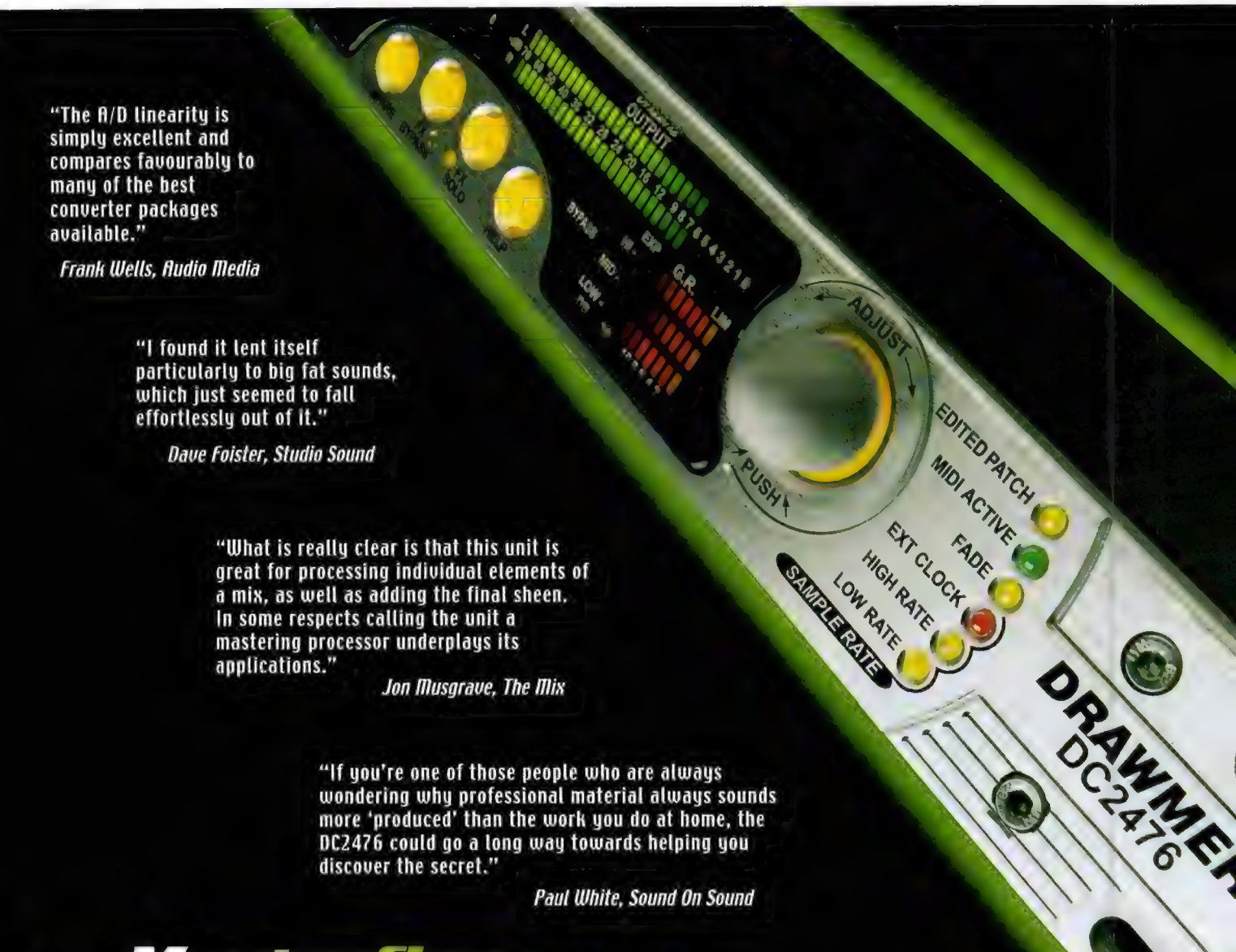
Dave Foister, Studio Sound

"What is really clear is that this unit is great for processing individual elements of a mix, as well as adding the final sheen. In some respects calling the unit a mastering processor underplays its applications."

Jon Musgrave, The Mix

"If you're one of those people who are always wondering why professional material always sounds more 'produced' than the work you do at home, the DC2476 could go a long way towards helping you discover the secret."

Paul White, Sound On Sound



Masterflow

24 bit/96 kHz

DC2476 Masterflow Digital Processor

- 24 bit A/D – D/A conversion
- 32, 44.1, 48, 88.2 or 96 kHz in/out sample rate
- Multi band Bootstrap™ compressor
- Multi band expander & limiter
- Five band *analogue modelled* EQ ±18dB
- Multi band tube modelling
- Gain normalisation for maximum loudness
- Dynamic spectral enhancement & de-essing
- Additional full band Bootstrap™ compressor prior to EQ
- Three band stereo width
- Expert factory patches & user patches
- PCMCIA slot for parameter transfer
- Word clock in/out – Midi in/out/thru
- AES/EBU, SPDIF digital in/out

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smart red LED meter with twin 20-segment ladders displays the output level, which can be tweaked with the rotary output gain knob.

In use

When switching on the 747, the output is automatically muted for a while so there's no danger of any thumps through the studio speakers, and while it could be used straight away, letting the valves warm up to an optimum operating temperature obviously makes sense if they are to be switched into the signal path. As a true stereo processor, there's no provision for separate control of two discrete mono signals, but there's nothing to stop the use of one side of the unit on a single mono signal.

The graphic EQ is instinctive to operate (hence the lack of frequency markings) and is designed for gentle sound shaping

We put the 747 through its paces in a variety of roles with both mono and stereo signals, including full stereo mixes, stereo drum subgroups, stereo and mono pianos, mono drumloops, bass and vocals.

The compressor provides a clean and transparent sound, not 'character' compression, but supplied comprehensive control, from mild compression up to hard-knee limiting, without appearing to colour the sound in any way. With the major part of the threshold knob's travel being between 0 and +20dB, there was plenty of scope for subtle adjustments when smoothing out the sound of a stereo mix, but the 747 also proved its worth providing some heavy compression to single sound sources, and the range of variations available with the attack and release allowed some useful pumping effects to be obtained.

The Avalon features spectral control over the sidechain for frequency-conscious compression

The sidechain filters added an extra layer of functionality and proved very useful when faced with such tasks as tightening up the bottom end only of a mix, and drumloops where a selected frequency range needed calming down. The filters work by raising or lowering the threshold of the selected frequency so that setting a level of cut for a certain frequency lowers its threshold, and thus it gets compressed more. In sidechain listen mode the selected frequency sounds louder when cut and quieter when boosted, which initially might seem confusing, but is logical considering how EQ works in a sidechain.

The graphic program EQ was designed not so much for severe sonic alterations, but more for a gentle shaping of whatever is put through it. The Qs and quantity of cut and boost available for the amount of fader travel are well-chosen to reflect this. Operating the EQ is instinctive enough (which is just as well, considering the fact that the frequencies are not written on the front panel), and a bit of fiddling about soon puts the unfamiliar user in the picture as to what each fader does.

Slightly irritating is the absence of any calibration markings along the track of the faders' travel. While the lack of markings on this section may serve to make the unit look prettier, it doesn't make the exact recall of previous settings an easy task, especially if your chinagraph markings have been rubbed off. We have to remember that this unit originates in laid-back California, but although 'just use your ears, man', may be an admirable concept, it doesn't cut it when you have to duplicate exactly a client's settings from the previous week.

The two end faders, nominally outside the usual frequency spectrum at 10Hz and 32kHz respectively, still exert considerable influence on the sound, with the higher 'air band' fader lifting the whole of the top end nicely and adding an overall sheen. The mid-range controls are useful for emphasis of particular elements in the sound. The twin signal path concept is a valid one, giving the user the option of using the valves for an alternative sonic character. The effect of switching in the valves is subtle, but there is a distinctly different flavouring in the sound that becomes more apparent (as may be expected) when the unit is driven harder.

Verdict

In a three-tier system of scraping, cleaning and polishing, the Avalon 747SP would definitely be the polisher. Strapped across the stereo buss at mixdown there is plenty here to add that final glow and sheen to a track. Whether the compressor is used solely to gently smooth the highest peaks, or to add some creative frequency conscious sculpting to a particular area of the mix, it performs its job admirably. Added to this, the TSP function can subtly change the character of the sound, while the 6-band EQ can perk up or tone down the spectrum in a refined manner. A classy performer, and not a beach or bikini in sight.

More from: ASAP Europe, Unit C & D, Tower Bridge Business Complex, 100 Clements Road, London SE16 4DG
Tel: 0171 231 9661 Fax: 0171 231 9111
Web: www.avalondesign.com

Avalon Design

Based in San Clemente, California, Avalon Design's avowed intention is the pursuit of sonic excellence throughout its range of preamps, compressors and equalizers. All Avalon products feature 100% discrete high-bias pure Class A audio amplifiers incorporated into minimal signal path designs. Selected high quality components are used throughout and include low-noise toroidal power transformers and sealed silver relays. Previous to the release of the 747, Avalon's best-known unit was the award-winning VT737SP Direct Signal Path, which has found its way into many studios.

The 737 has several features in common with the 747 but is intended to be at the front end of the signal chain, being a channel-strip type unit with mic, line and instrument inputs, a valve preamp high-pass filter with switched selection of several frequencies between 30Hz and 140Hz, opto-compressor and 4-band equaliser. The 737's compressor can be made frequency-conscious like the 747, but this involves switching the EQ section's two mid-bands into the sidechain, leaving only the treble and bass EQ bands in the final signal path.

The 747 and 737, while by no means cheap, are relatively inexpensive compared with some other Avalon units, which include the AD2055 dual-mono parametric music equaliser, AD2077 dual-mono mastering equaliser, and the AD2044 opto compressor. The range also extends to the U5, a high-quality preamp/DI box.

Audio Technica AT4047/SV

Cardioid condenser microphone

Price £499

For Beautiful sound ⊙ Solid construction ⊙ Shockmount cradle supplied

Against Fixed pattern

Verdict A high-quality, all-round studio condenser with an attractive pricetag

Audio Technica have been in the audio business since the early '60s, beginning with phono cartridges and gradually expanding their range to include headphones, mixers and microphones. Their comparatively recent move into the world of studio microphones has been a great success, winning them friends in all the right places. In fact, a glowing recommendation from the legendary Steve Albini – 'every studio should have one of these' – prompted the frenzied purchase of several Audio Technica 40 series microphones for use around our studio. These excellent and inexpensive microphones are part of a range whose crowning glory is the AT4060 tube microphone which, like the AT4033, sounds far more expensive than it is.

So enter the 4047/SV. Car manufacturers invent stupid names for their cars, so why can't we have microphones called the 'SingSong DeLuxe' or the 'Valvo', maybe? Oh well. Slap in the middle of the 40 series of microphones, the 4047 is a large-diaphragm condenser that combines vintage sound quality with hi-tech build and design, thus delivering warmth and detail without packing up every five minutes or making tractor noises. It's warm, precise, looks very nice, and you could buy four for the price of a U87.

Overview

Unlike the 40 series microphones mentioned earlier, the 4047/SV is finished in a sleek, Robocop-style matte silver. A shockmount cradle sporting the same silver finish is provided, making the whole thing look pretty sexy. At the rear of the microphone are two small switches set horizontally along the base. One is a hi-pass filter, which cuts out any frequencies below 80Hz. This will eliminate floor vibrations and traffic noise, and will reduce popping during close-up vocal recording. The other is a 10dB attenuator or pad. If the mic is distorting due to the sheer power of your drummer, for example, this switch will give you 10dB more headroom. The mic uses standard 48V phantom power, so there's no external power supply or strange connector to worry about – a standard XLR connector is all you need.

The business end is in the tradition of the Neumann U87. Dual gold-plated diaphragms are shock-mounted to eliminate unwanted noise and vibration, and Audio Technica subject the diaphragms to a five-stage ageing process to ensure that the frequency response doesn't change as time goes by. The spec sheet supplied with the review model says that the mic can deal with a thumping 149dB SPL, or 159dB with the -10dB pad switched on. In practical terms, this means that it is extremely unlikely to distort during normal use, and that you can get right in there and capture those juicy transients as well as the scratchy, breathy details of your sound source. Unfortunately the polar pattern is fixed at cardioid, but this is no surprise given the very reasonable pricetag.

In use

The silver cradle supplied with the 4047/SV felt instantly reliable and held its position with no droop at all – a definite improvement. With our other AT mics, the suspension cradles have become awkward to position after the screws that set the angle of the hoop relative to the stand have lost a little of their initial grip.

It's worth remembering that any system is only as good as its weakest link, and a silent microphone through a noisy desk gives you a noisy signal, and vice-versa, so it's important to test a microphone with a top quality preamp. After plugging up to a Neve mic preamp and switching on the phantom power, the 4047/SV sounded silent. Having established that, the Neve was swapped for Avalon's VT737 valve recording channel, and the band were released into the studio.

While recording the rhythm section, the 4047/SV was placed where a U87 would normally go – with this particular drummer, level with his head and about 3m in front of the kit. With a little compression the drums

words **Steve Evans** images **Gavin Roberts**

specifications

Polar pattern
Fixed cardioid

Frequency response
20Hz-18kHz

Maximum SPL
149dB, 159dB with pre-attenuation

Hi-pass filter
80Hz, 12dB/octave

Weight
410g

were sounding great, perhaps a little toppier than normal. In the end the EQ was left flat and the room came across very naturally, even off-axis.

Next up was a violin. The hi-pass filter was switched in and the microphone placed 30cm away from the instrument. The stonewalled room didn't do anything to smooth out any nasty mid-range frequencies, but the microphone sounded even and flattering, capturing all the scrapey bow action in juicy detail.

The frequency response curve shows peaks at 6kHz and 11kHz, and this comes across as a lovely modern presence, particularly on vocals. This session included close-mic, breathy layers of vocals and some fairly ear-splitting performances as well, and even some spoken word. The 4047/SV did the job admirably in all of these cases, standing up well to comparisons with some real heavyweights like the AKG 414b ULS and the AKG C12.

Verdict

The AT4047/SV is one of those microphones that could be the main mic in your set-up, doing its duty on everything from drum overheads to main vocals, or a useful addition to a big microphone collection in a pro studio, ideal for the unexpected backing singer or acoustic guitar. It provides a crisp, accurate sound with all the warmth and bass response you should expect from a large diaphragm microphone.

It's often the vocal sound that lets a recording down, and it's tempting to buy gadgets or plug-ins and make do with the old SM58. If vocals are part of your music, a condenser microphone is pretty essential if you want a professional result. The 4047/SV does everything you would expect a quality condenser to do, presenting a detailed sound and capturing the subtleties of a performance that make a recording special.

It shouldn't be the only microphone in your set-up, but if you have a couple of dynamic microphones and a pair of PZMs as well, you could cope with most things. If you need a reliable workhorse, and you can't spare £1,500 or more, the AT 4047/SV will make you very happy.

More from: Audio Technica, Technica House, Royal London Industrial Estate, Old Lane, Leeds, LS11 8AG
Tel: 0113 277 1441 Fax: 0113 270 4836
Web: www.audio-technica.co.uk

Mackie CFX16

Integrated live sound mixer

Prices see box on page 50

For Onboard digital effects unit › Onboard stereo graphic equaliser › Separate sub-woofer output

Against No signal present LEDs › No sub-grouping of effects for live multitrack recording › No effect PFL

Verdict A well thought-out, compact live mixer packed full of features

There's not much one can say to further enhance the reputation of Mackie's line of mixers. They've established themselves as purveyors of fine consoles for the semi-professional over the last ten or so years, and there doesn't seem to be anyone in sight to knock them off this perch. The desks are reliable, solid and packed full of features all for a very affordable price, and the CFX range is no exception. Available in 12, 16 or 20-channel configurations, they are ideal for small to medium sized clubs, rehearsal rooms, churches or meeting halls.

Overview

Anyone familiar with other Mackies will immediately recognise this new range because there's no change in design: dark grey metallic chassis with white legend and light grey buttons and pots capped with colour-coded tops (white for trims, red for effects sends, blue for EQ and black for pan). It feels solid, sturdy and well-built, with the CFX16 coming in at 9.5kg. The faders, though they don't glide like the best and have a short throw at around 6.5cm, don't feel like they're going to snap with the first brutal movement.

All the connectors, apart from the mains inlet are easily accessible on the top of the console, so there's no fumbling blindly round the back to put a cable in the wrong hole. What's more, there's a BNC lamp connector for most makes of 12VDC gooseneck lamps to help you see in the dingiest of dives – a very professional addition.

Let's take a look at the features on each of the input channels. On the CFX16 there are 12 mono channels with both mic and line inputs, plus two pairs of stereo inputs for line levels only. It's ideal for a couple of individual keyboards or maybe an on-stage line mixer for a whole keyboard set-up. The mic amps on the mono channels are balanced XLRs of a new design which sit somewhere between the VLZ and VLZ-pro in quality. The line inputs are also balanced for use with stereo 1/4" jack plugs, although they will accept unbalanced mono lines. There's no mic/line input selector switch: the mic input takes priority if both are plugged in.

The only other connector on the input channels is an insert point for adding serial effects, such as compressors. This is the standard TRS jack socket, with the tip used for the send to the effect and the ring for the return. There aren't any inserts on the stereo channels.

The trim pot gives plenty of gain: +6 to +50dB for mics and -15 to +30dB for lines, but there's no pad so remember to keep those trims down. There is, besides the trim pot, an LED to signal when the input reaches zero level, in other words, when it reaches the optimum level for the input channel. This is pretty useful but maybe not as useful as an LED that shows when a signal is present (around -20dB), as it's always good to see at a glance whether a signal is getting to the desk or not, so you know immediately where to look for a fault. Also by the trim pot is a high-pass filter separate to the EQ section that cuts everything below 100Hz at a rate of 18dB per octave.

Following most input channels down from the trim pot you'd normally come across the EQ section, but not on the CFX. The designers at Mackie have switched round the EQ and auxiliary sections, thinking that you use the EQ more than the sends so they might as well be nearer to you. Very bright. There are four sends, two labelled auxiliary and meant for a monitor send, though they can also be switched individually »

words **Tim Oliver** images **Gavin Roberts**

MACKIE.
CFX16 MIXER
16 CHANNEL COMPACT INTEGRATED LIVE SOUND MIXER
STEREO GRAPHIC EQ
MAIN MIX
SUB 1
SUB 2
SUB 3
SUB 4

A well-connected desk: here are the master section sockets on display

to post-fade for effects. The other two are labelled effects sends and are both post-fade only. The second of these is connected to the onboard digital effects unit – more on this later.

EQ and effects

The EQ is a fairly standard 3-band affair, with the top and bottom fixed at 12kHz and 80Hz respectively, and the mid-range sweepable between 100Hz and 8kHz. All have a good 15dB of cut or boost. Like all other Mackie EQs, it sounds good when used in moderation; at extremes it can start to sound a bit harsh and abrasive in the presence and top ranges. Sadly, there isn't an EQ in/out switch, which is always very useful.

The EQ on the stereo channels is slightly different, with four fixed bands: the high and low mid set at 3kHz and 400 Hz respectively. Routing is via four sub-groups to the main stereo mix out. There are jack outputs for the four groups, useful for live multi-track recording, which is so simple to do these days on to compact digital recorders. The mute buttons are good and big, but like all the buttons on this desk it's a little hard to see at a glance which ones are pushed in and which aren't.

The solo is PFL and routes that channel to the headphone out and the left meter without disturbing the main mix, as you'd expect on a live desk. There's an amusing flashing red LED on the master section called Rude Solo which reminds you very angrily that a solo button is in somewhere.

Perhaps the two features on the CFX which make it such an ideal compact solution for live sound are the onboard 32-bit effects unit and the stereo graphic EQ. The effects are pretty comprehensive and sound really good, which isn't surprising seeing as they're taken from the flagship D8B mixer. They range from cathedral reverbs to phasing and flanging, and each effect has two parameters to edit. You can adjust the time and high frequency damping of the reverb and delay settings, and rate and depth of the modulation effects.

Finding and tailoring an effect that worked was no trouble, and for a lot of situations another external effects unit might be unnecessary. A red clip LED lights up when you're overcooking the input and an EFX 2 send/input pot optimises the level going into the effects chain. As well as routing to the main mix, the effects can be sent independently to the two auxiliary sends for monitors. It seems like Mackie have thought of everything, but it would have been good to take it a bit further and have routing to the sub-groups as well so you could record effects with the performance. Still, you can always add the same effects later when you mix down the live tape, and even get it sounding better, with a bit more consideration.

The graphic EQ is a star: nine one-octave bands giving 15dB of cut and boost. The bands are precise and extreme if needed, but ample for tuning the room to a CD that you know and love. To do this is easy, thanks to a neat and professional bit of design from Mackie: plug a CD output into the Tape In and a break switch on the master section routes that to the main output via the graphic, and at the same time cuts out all the input channels to avoid distracting spill from mics on stage (and of course feedback if it's the output of a DAT or cassette). Sadly, like the channel EQ, there's no bypass on the graphic.

Loadsa features: the CFX16 has an onboard effects unit and graphic EQ to spice up your mixes

The CFX also offers some other interesting features. As well as the balanced left and right main mix output, there's a 75Hz sub out for when you're working in a larger venue. It has a 24dB/8ve crossover and could help to add low-end punch and fill the bigger space. Also there's what's called a Utility Out, which is much like a monitor out on a recording mixer, taking a feed from the main mix after the master fader.

Verdict

The CFX is a really well thought-out mixer with the sort of features you'd get on a much more expensive desk: graphic EQ, effects, lamp socket and sub-bass output. Yet it is simple to use and inexpensive enough for the beginner, so if you were to start out on this it should last for a while. The only disappointing omissions are bypasses on the EQs, which is a small gripe in the big scheme of things. The CFX sets a high standard for a new breed of live mixer.

More from: Mackie UK, 2 Blenheim Court, Hurricane Way, Wickford, Essex, SS11 8YT
Tel: 01268 571212 Fax: 01268 570809
Web: www.mackie.com

specifications

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Auxiliaries
4, with one hard-wired to internal FX

Sub-groups
4

Digital effects
32-bit, 16 presets

EQ: stereo channels
4-band, fixed

EQ: mono channels
3-band, with swept mid

Main EQ
Stereo, 9-band

Frequency response
32Hz-20kHz, +0/-1dB

Distortion
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Weight
9.5kg

prices

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- 16-channel: £699
- 20-channel: £839

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Emagic Logic Audio 4.1

Hard-disk recording and editing for PC

Price free for 4.0 users; ES-1 synth £49; full package £399

For Great sounding soft-synth ⊙ VST2.0 support

Against Multiple ES-1s/multi-FX require HAL-style processing speeds

Verdict The best gets better – a timely upgrade with new features and support puts Emagic back in the driving seat

words
Oz Owen

CD info

track 01
Upgrades for all versions of Logic 4.0 to 4.1, plus a Logic 4.0 demo and MP3 demo of the ES-1 synth

Just when you were getting over the shock of Emagic's recently overhauled Logic Audio, taking the sequencer package up to version 4.0 with all its great new features and updated user-interface, along comes V.4.1, representing a not-inconsiderable improvement to the professional's sequencer package of choice. But before we take a look at the features, the best part is that for anyone running 4.0 the upgrades are completely free – and you don't even have to download them from Emagic's website, as they're all included on this month's cover CD.

As well as general performance improvements, Version 4.1 introduces some radical enhancements bringing Logic up to speed, if not placing it firmly ahead of the competition.

New features

Firstly, Logic now has support for VST2.0 plug-ins under Windows and Mac, so anyone using Emagic's finest are in for a bit of a plug-in bonanza. Not only does Version 4.0 give you all 31 of Logic's native plug-ins, but you can now look round the net for all sorts of VST compatible plug-ins, many of which are downloadable for free. A good place to start for a round-up of possible locations is www.logicuser.net/freevst.html. A lot of the free plug-ins are quite basic, but the good news is that not everyone has them (yet), so they could be a good way of producing some new and interesting sounds.

Another new feature, maybe not quite as exciting as the last one, is Logic's support for the G4 MacOS Velocity Engine. So Logic 4.1, coupled to the new G4 processor, allegedly increases performance by up to 200% – sequencing on steroids has arrived!

There's more hardware compatibility to announce. Anyone who's invested in the excellent Digi 001 audio/MIDI package (see *The Mix* 69) will be pleased to learn that Logic on the Mac has raced ahead to version 4.1.2, meaning that Digi 001 owners can now use all the functions of their hardware with Logic Audio Macintosh. Once again, the 4.1.2 update is available to all current Logic Audio Series and MicroLogic AV Macintosh Version 4.0 owners.

But here's the big one – ReWire support for both Windows and Mac. Oh yes, now you can take advantage of all those lovely soft-synths and samplers from within Logic. Users of Cubase will already be familiar with the wonders of ReWire technology, allowing as it does individual outputs from soft-synths/samplers to be routed to separate channel strips of Cubase's – and now Logic's – internal mixer.

Soft-option

As if that wasn't enough, Emagic take full advantage of this ReWire compatibility by launching the ES1, or Emagic Synthesizer One – the first in a range of virtual instruments for Logic users. The ES1 will be shipping by the time you're reading this, and will set you back a very reasonable £49, although prices are yet to be confirmed. Installation is a doddle – just follow the prompts, reboot, and on starting Logic the Audio

The ES1 synth features all the usual controls you'd find on an analogue control surface, and it sounds pretty good too

Instrument appears alongside your usual choice of Audio and MIDI tracks.

So, can the ES1 cut the mustard with the rapidly-increasing array of soft-synths on offer? The ES1 not only looks the part, featuring all the usual controls associated with an analogue control surface, but it also sounds pretty damn good too – check out the MP3 demo on the CD. Billed as a real synthesizer, the ES1 gives flexible tone-generation, giving access to all the analogue sounds we've come to know and love.

And with the ES1 you don't get just one synth. Assuming you have a kick-ass computer spec, you can use up to eight ES1 instruments simultaneously within Logic, each with up to 16-voices – with sample-accurate timing. The ES1 can seamlessly integrate with all of the effects within Logic in real-time, so piling on the delays, distortion, reverbs and compressors makes for some amazing sounds, but once again, the load on the CPU goes through the roof.

As is expected in these days of unlimited control, all of the parameters can be automated/recorded, so setting up a MIDI control interface such as the Peavey PC1600X or the Kenton Control Freak gives you all the control of analogue, but with the super-clean digital sound.

Anyone who thinks that soft-synths sound too clinical will be happy to hear that it's no problem to add varying amounts of 'analogue-style' random variation to each note, thus giving all those wonderful inconsistencies that put so many people off analogue in the first place. Aah, progress. And when the tweaking is done, simply bounce the whole thing down as an audio track, effects and all. Expect a closer look at the ES2, ES3, ES4... as soon as they become available.

One possible cause for concern, ongoing from v4.0, could be unstable continuous sync'ing to incoming MTC with the Audiowerk8 drivers. This is a rare problem and Emagic are on the case; we just wanted to point it out in case you've been frustrated.

Verdict

Already a flexible and powerful package, the Logic Audio series has just taken a quantum leap in terms of integration and features. The ES1, first in a range of virtual instruments to come from the Emagic stable, is a worthy addition to even the most comprehensive arsenal of sound-generators, delivering some interesting features and fantastic sounds. Meanwhile, VST2.0 compatibility opens up a whole world of additional plug-ins, and Digi 001 support makes using Digidesign's high-spec, low-cost recording hardware with a fully spec'd sequencer a reality – not restricting you to the compromised MIDI facilities in Pro Tools LE.

More from: Sound Technology, Letchworth Point, Letchworth, Hertfordshire, SG6 1ND
Tel: 01462 480000 Fax: 01462 480800
Web: www.soundtech.co.uk

Marvel as the ES1 comes up the audio window, just like a standard audio track, then pile on the FX, CPU permitting

ES1 system requirements

PC
- Logic Audio/ MicroLogic AV 4.0 or higher
- Pentium 200 (Pentium II or III recommended)
- Windows 98
- 64Mb RAM (128 Mb recommended)
- Digital audio card
- MIDI interface

Mac
- Logic Audio/ MicroLogic AV 4.0 or higher
- 604e processor or fast 603e (G3/G4 recommended)
- System 8.5
- 64Mb RAM (128Mb recommended)
- 128Mb RAM for MacOS 8.6 or newer
- USB requires System 8.6 or newer
- Digital audio card
- MIDI interface

features

- ES1 soft-synth
- VST2.0 plug-in support
- ReWire technology
- Digi001 support

Lexicon Core 2

PC audio interface

Price £599

For Good sound › Well-built › Expansion options

Against Don't mess with version 1.2 › Not multi-client › Manual a little brief

Verdict The inclusion of DBX processing makes the Core 2 an interesting alternative in this hotly-contested area of the market

No strangers to hard-disk recording, Lexicon entered the middle and higher ends of the market with their much-acclaimed Core 32 card, designed to work with the LTD10 and LTD12 interfaces. The basic concept of these systems was to use a PCI card (Core 32) that connected to either of the LTD units in order to provide a high-quality multiple I/O recording device, primarily for Steinberg's Cubase VST. Incorporated into this environment were two Lexicon PCM 90 reverbs (or as near as damn it to PCM 90s).

And then there was the LX3 Multi-Interface Adapter, which allowed as many as three LTD10s to be linked together, providing 24 channels of 24-bit analogue, TRS balanced I/O and three sets of S/PDIF I/O, all usable simultaneously. The system employed no additional EQ or dynamics, relying very much on the use of plug-ins within VST. This was, with the inclusion of the PCM90s, an expensive system even in the simplest of modular states. So bring on the Lexicon Core 2 Desktop Audio system

Overview

The Lexicon Core 2 is designed to be the all-in-one solution your project studio needs, and comes as a short PCI card and breakout box with an optional MP-100 daughter board. On the back of the card is a pair of ADAT inputs and outputs, plus the multi-pin connector for the breakout box – a rather well-made, chunky affair. It's connected to the card with the supplied high-quality 40" long, multi-pin lead.

Unfortunately, this lead is so stiff that when it's connected to the breakout box it tips the box on its side unless the box is clamped down or a very heavy multicore is plugged into the outputs. We are sure that if the lead was a little longer – and let's face it, leads are never long enough – this wouldn't happen. MOTU, for example, give you a nine-foot long FireWire lead with every box, which is great, and allows you to put your interface right where you need it, which is not always on top of your computer.

The front of the breakout box has four analogue ins and eight analogue outs on unbalanced 1/4" jacks, and lastly, there's an S/PDIF in and out, also doubling as a wordclock I/O. This gives the Core 2 a total of 14 inputs and 18 outputs, which is pretty good value in our book. There's an optional FX daughterboard, providing the user with an MPX100-style processor, but this was not available at the time of this review.

Along with the hardware, Lexicon enclose several pieces of software. The first is Lexicon's Lex Panel, which controls all input and output settings for the card, and has three basic windows: Punch, System and Core 2. Punch, for those used to analogue recording, is like auto-input monitoring, which sounds simple enough, but for those new to hard-disk recording there's a dark place called Latency.

This is a problem that occurs when the artist is happily playing along with the track, and ready to be dropped in. You press record, they start playing and everything they play comes out 20 milliseconds later. This can be very difficult to deal with and is caused by the time taken by the CPU to process the audio and then output it. This can be reduced by using small buffers, but this imposes more work upon the CPU.

So Lexicon have provided the user with a handy shortcut. By selecting the necessary inputs and outputs in the Punch window, the card automatically routes the audio directly from input to output, thus enabling accurate zero-latency monitoring.

The second window is the System window, and from here, one can select the source for wordclock, either via the S/PDIF or internal. The third window is the Core 2 window – the bit most of you will be interested in – and is where the ins and outs are selected. Starting

words **Adam Fuest** images **Louise Broom**

Setting up a computer-based studio? This Lexicon system could be a very effective platform for recording music

specifications

Analogue I/O
4 in, 8 out on unbalanced 1/4"

Digital I/O
8 in, 8 out, stereo S/PDIF

Sample rate
44.1/48kHz

Bit depth
16/24

Signal/noise ratio
Typically better than 102dB

Options
MP100 FX card

minimum requirements

- 64Mb RAM
- 200MHz Pentium-compatible CPU
- Fast, high-capacity IDE or SCSI hard drive

from the left, we have the analogue I/O. Next to this we have the ADAT I/O, and to the right of that we have two buttons to activate (presumably) the MP100 daughterboard. There's no mention of it in the manual, but it does appear on Lexicon's website. Below these are the S/PDIF buttons, and to the right of these are four faders corresponding to the analogue inputs, which can be paired if required.

Then comes the surprise: at the bottom of the window there are four green lights, and the letters 'DBX'. 'DBX noise-reduction', you might say? 'Why should I need that in a soundcard?' Well, this isn't DBX noise reduction; this is, in fact, DBX Type IV soft-knee limiting on every analogue input channel to simulate tape compression and provide 4dB of improved headroom. It does this very well indeed; playback from the Core 2 does have a very cohesive, warm sound that's very pleasant to work with.

This is one of the first soundcards to actually have a sound if you like! The DBX can be disabled via jumpers on the main card, which is a shame because this is something you may well want to play around with, and having to pull the card out every time is a bit daft. But needless to say, one would be happy working with the card either way.

The second piece of software is a special edition of Syntrillium's excellent Cool Edit Pro – a vastly underestimated program that's able to act as an Audio multitrack recorder in a similar manner to Sonic Foundry's Vegas, or as an editor similar to Wavelab or Sound Forge. Used in conjunction with the Lexicon Core 2, it provides a very strong, flexible and competent audio recording platform. And lastly, there are several templates for Cubase to get you started.

In use

So that's what comes out of the box, and this is where a word of warning is needed. When the card first arrived, we used the enclosed drivers – version 1.2 – and they presented our computer with a nightmare of cascading crashes, and when it did finally work and install only half the functions were available! This, it appears, is due to the fact that Version 1.2 does not get on very well with AGP graphics cards, and since nearly every new computer uses an AGP slot for its graphics card (even Macs have an AGP slot) it's essential to get on down to the Lexicon website and download yourself version 1.21 before even letting the card out of the box.

We think that this is maybe a little naughty and advise all those purchasing this card to make sure that they receive the latest drivers from their »

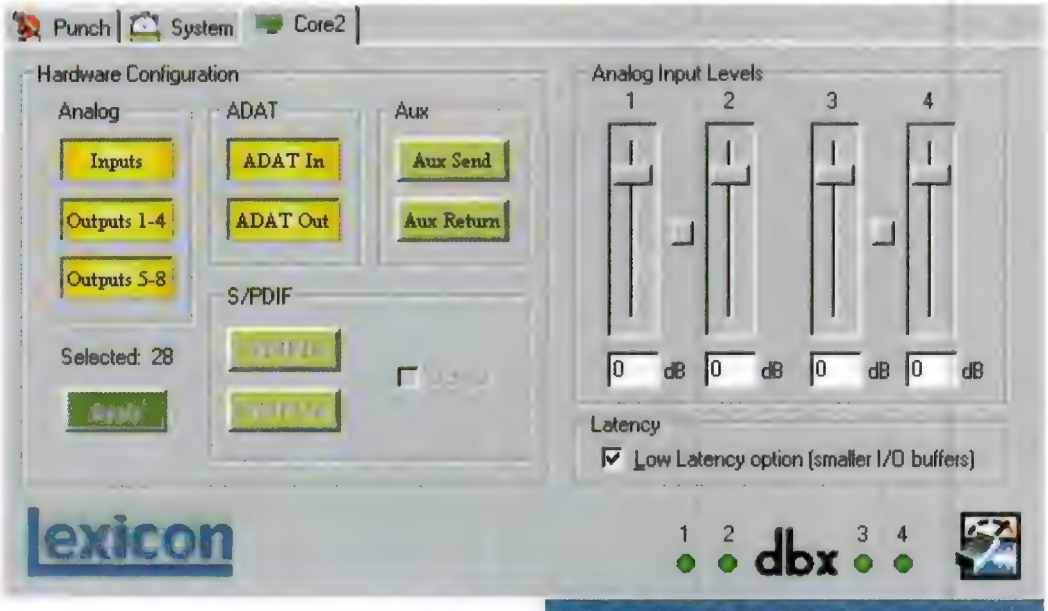
State of the PC

The computer used for the review was a Pentium III 450MHz with 128Mb of RAM, an 8Mb graphics card and a Fujitsu IDE hard drive. Six months ago, this would have been considered a stonking system but is now almost certainly an entry-level machine. And yet, harnessed to a card like the Core 2, it's capable of producing material of an outstanding quality.

The issue of latency is becoming less of a problem through the use of state-of-the-art machines with processor and floating-point performance now running at such speeds it's possible to comfortably use buffers as small as 32k and have latency down as low as 3-5ms. For most people this is ok, and in some ways it makes the use of the punch-in line switching featured on the Core 2 less important.

The next stage in computer audio is going to be a little more expensive than we have become used to, with the use of dual processors becoming more commonplace in audio, just as they have with the graphics and video industry – in fact, the imminent arrival of Windows 2000 will offer dual-processor support, promising extreme levels of performance.

As the present clock speeds peak, which is going to happen over the next six months, the performance enhancements available from additional sources other than the PC CPU are going to be where the ground is gained or lost in the development race of new hard/software. Buying into systems that are expandable is one way of ensuring that purchases may have a little more life left in them.

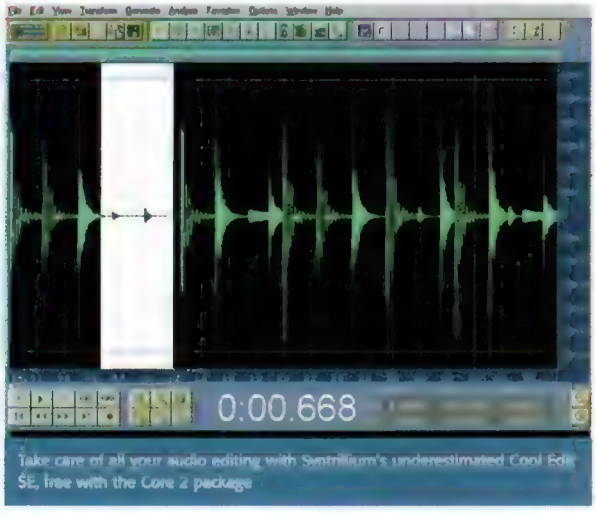


The Core 2's hardware configuration and input levels page. If you've got a fast system, you can check the low latency box.

dealer. Although having to continually update most computer equipment via the internet has become a fact of life, a product like this, designed for the new user, should be rock-solid on release, as the novice is going to have a steep enough learning curve as it is. That said, once installed with the new drivers, the Core 2 worked perfectly well.

Nice and smooth

ASIO and MME drivers are provided. Within Cubase, the ASIO drivers were fine, but we found the MME drivers a little smoother when using Logic, although Logic worked perfectly well with the ASIO drivers. We've found in the past that the MME drivers for other cards such as Soundscape's Mixtreme have been a little lighter on CPU usage than the ASIO drivers, so the choice is yours.



Take care of all your audio editing with Syntrillium's underestimated Cool Edit SE, free with the Core 2 package.

The Core 2 is capable of 24-bit recording, but is unfortunately not capable of multi-client operation. This is a great shame, as a card having this many outputs is screaming to be used with soft-synths and the like. As mentioned in the MOTU 1224 review on page 40, multi-client operation means that the drivers can be divided up between several different programs and used simultaneously. But with ReWire being adopted by Logic and programs such as BitHeadz AS1, the need for multi-client operation is not so important as more people take ReWire technology on board.

Verdict

So to wrap it up, quibbles aside, this is a very strong system, if a little restricted in a few places. For the person setting up their computer studio with possibly their first computer it is, for the most part, a system that could provide you with a very effective platform for recording your music. And you're buying into a name that is synonymous with quality audio. Lexicon is one of those companies that is not going to go away and has shown a strong commitment to this direction of technology, and one can rest assured that they will be continually improving and updating the system.

That said, it's not the only game in town, and at this price there's some very tasty competition. The build quality is exceptional with the Core 2 and one would expect the breakout box to last well and not fall apart, unlike some that we've seen. The optional plug-in board, allied to some innovative little tricks like the punch-in window and the DBX processing, could be what it takes to make all the difference to many people.

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Multi-FX unit

Price £459

For Good-sounding reverbs ⊙ Two separate effects units in one ⊙ Simple to use

Against Only one stereo output ⊙ No quick way to page through presets and values ⊙ No autopanner

Verdict An interesting combination of simple functionality and quality processing

CD info

track 06
A trip through some of the M-One's routing options and presets

Say the words M-One to someone and you are likely to trigger off memories of the long tarmac car park that straddles the North/South divide. Musician friends will no doubt wax lyrical about the wonderful Korg M1 keyboard and how, in its time, it was the definitive sample and synth workstation. Well, now there's a new addition to this short but significant M-One list. Yes, you guessed it, it's an effects unit. Okay, maybe it's not the first thing you'd think of, but in TC Electronic's world (Denmark, that is), it does make some sort of sense.

You see, TC's latest effects processors, the M-One and D-Two, are the new high-quality but lower-cost units from an illustrious range that includes such classics as the M5000, the M3000 and the M2000. So the name is now beginning to make some sense. But although these units come in at under the £500 price tag, they are not necessarily at the bottom of that list. TC have exchanged some of the more costly aspects of the M2000 (XLR connectors, AES/EBU interface and extensive parameter control), for better converters (24-bit), and better-sounding reverbs. But the question still remains, do we need yet another multi-effects box?

Overview

The M-One is a deceptive little box. On the surface, it may look like a simple effects processor, but it actually combines two processors in one. There are 21 algorithms to choose from, with the unit running any two of these at the same time. There are a number of configuration options (see the *Route Planner* box on page 60 for full details), which allow each of the two processors to be completely independent, or related to some degree.

As far as the effects are concerned, the emphasis is on reverbs (which make up seven of the algorithms). But, the rest of the algorithms cover a broad selection. Delay, chorus, flanger, phaser, pitch-shift, EQ, compressor, gate, de-esser and tremolo are all included in this box of tricks. Essentially, the M-One is meant to be easy to use, while still offering quality effects.

Getting connected

As mentioned above, the M-One doesn't have pro connectors. Audio ins and outs are via balanced jacks, and digital via S/PDIF phonos. Thankfully, power is via standard IEC, and there are the usual MIDI in, out and thru connectors. Finally, there's a pedal input for bypass and tap-tempo functions. In keeping with many new units, A/D-D/A conversion is 24-bit at either 44.1 or 48 kHz, with dithering available down to 8-bit at the digital outputs.

The most striking thing about the M-One is the multi-coloured LCD screen. It portrays a very retro feel, and after a few minutes spent using the unit it becomes clear that in many ways the M-One *is* retro. The front panel controls are self-explanatory, and there are no hidden sub-menus to get lost in. Audio input levels, the effects output mix and the blend between the two effects engines are controlled by the three knobs at the left-hand end of the front panel. All other aspects are modified using the control keys and data wheel at the right-hand end of the panel. The four set-up keys to the right of the LCD access global parameters, such as the routing options and in/out settings. Each effect engine has its own edit and bypass button, and programs are stored and recalled using the corresponding keys next to the data wheel.

The M-One has six different routing options. These are dual send/return, parallel, parallel/serial, stereo linked and dual mono. Although these configurations are usually saved with the preset, it is possible to lock the routing configuration within the utility menu if you always use the same routing. What is immediately apparent though, is that the unit only has two inputs

words **Jon Musgrave** images **Gavin Roberts**

Is it a keyboard, is it a motorway? No, it's TC Electronic's new M-One, entering the budget FX market

and two outputs. So in practice, if you have two stereo outputs, they are always going to be blended to one stereo pair prior to leaving the unit. This is definitely a slight limitation of the M-One, and it would have been nice to see an extra pair of stereo outs.

MIDI facilities are catered for in a very competent manner, with the usual bulk dump via Sys-Ex of the preset information. Also, presets respond to MIDI program numbers, and MIDI continuous controllers can control most parameters within the presets.

In use

First impressions of the M-One were of a solidly built unit. The front panel keys did rattle quite a lot, but this seemed to be more by design than error. Paging through the factory presets indicated a good spread, with the emphasis definitely on the dual send/return configuration. In fact, the first 40 presets were based on this routing, with the remaining 60 presets split more evenly between the other configurations. Strangely, there only appeared to be 100 factory presets rather than the 128 advertised on the box. Also quite odd was the fact that there were no user locations initially available. These only become active once you have saved your own patch, and again there are 100, not the 128 advertised on the box.

The multi-coloured LCD screen proved to be very clear, but paging through the presets using either the arrow keys or data wheel was quite slow, with no quick option available. This may be familiar to Yamaha SPX 90 users. Another niggle was that the tap tempo key had a light which seemed to flash irrespective of whether the preset had a delay or not. Thankfully, along with an extensive selection of subdivision options, the tap menu allows you to switch off the tap-tempo facility completely, along with its annoying light.

Once you have the M-One patched in, another couple of interesting things crop up. First is the bypass function. Rather than just a basic bypass, the unit has three modes. The first passes the input direct to the output, and the second cuts the effects output but maintains the dry to effect balance. Cleverly, the third mode cuts the input to the effect engines, allowing the resultant effect to continue. Add this to the fact that each effect engine has its own bypass switch and you've got a very usable set of options. Your bypass mode is set within the utility pages, along with the footswitch function, which can control either tap tempo or bypass.

Moving on to the effects themselves, the quality of the reverbs are immediately apparent. As already mentioned, the first 40 presets are set up for dual send/return routing, and are mostly two reverb options. As it happens, it's quite nice to have one unit plugged up with two reverbs available together, even if the outputs are combined. You soon get used to the idea of balancing the outputs with the balance knob, although you may find yourself adding two reverbs »

specifications

Conversion
24-bit (A/D and D/A)

Dynamic range at inputs
>93dB, 20Hz-20kHz

THD at inputs
<-92dB (0.0025%) @ 1kHz

Frequency response
20Hz-20kHz
± 0.1dB@48kHz

Max input level
+24dBu

Max output level
+20dBu

Sample rates
44.1/48kHz

Output dither
8/16/20/24-bit, mono

Internal processing
24-bit

Dimensions
1U (483 x 44 x 195mm)

Route planner

Initially, the routing options available within the M-One may seem a little confusing. Although the currently selected routing is depicted on the LCD, it is not incredibly clear, so some initial reference to the manual will no doubt be needed.

Of the six routing options, 'dual send/return' probably seems like the most obvious to start with. Here, each input feeds one of the effect engines, and the outputs are blended together to stereo using the effect balance control. This set-up would be best suited for two auxiliary sends from a mixing desk.

The 'parallel' option, on the other hand, is best suited to a situation where you want to apply two separate effects to exactly the same input. Here, the left and right inputs are summed and sent to both the effects engines, with the effects blended to stereo at the outputs.

'Parallel/serial' is essentially the same as the dual send/return option, but with the added bonus of feeding some of the first engine into the second using the 'eng 2 crossfeed' parameter.

The 'serial' routing quite simply chains the two engines in series. This configuration would work well if you wanted to de-ess the feed to the reverb.

The final two routing options are 'stereo linked' and 'dual mono'. The first of these matches the parameters and algorithms of the two engines, with engine one controlling engine two. This is best suited to true stereo applications, such as a stereo compressor. In this case, the effect balance control is still active, and controls the balance between left and right.

'Dual mono' is the final routing configuration, and the only one that allows two completely separate signals to enter and exit the M-One, albeit mono signals. A good application would be a delay on one side and an EQ on the other.

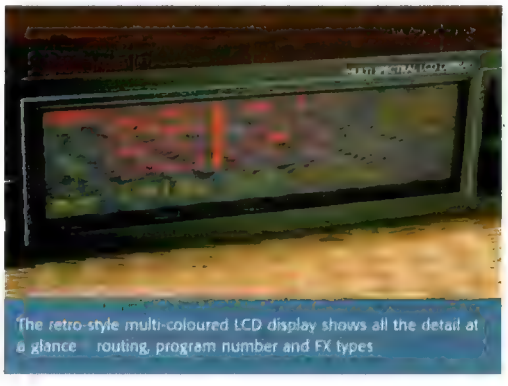
The M-One's front panel controls are well laid-out, and there are no hidden sub-menus to get lost in

» to one element of the mix where one may have done. Using the tap-delay option for setting up a delay proved very easy, and it was good to see a healthy maximum delay time of four seconds.

The parallel/serial presets, if anything, underused the crossfeed parameter, and came across as quite subtle, but a quick tweak moved things more in the right direction. Other than the dual send/return routing, the serial routing would appear to be the next most useful.

Some of the presets had very usable combinations, for example, a de-esser or compressor feeding a reverb, or a small detune prior to a delay. These are things that in the normal course of events you might not do, due to lack of equipment or inclination, but, when it's at your fingertips things become much simpler.

The dynamic effects, such as compression and de-essing, were very simple to use, offering most of the required parameters. The compressor parameters were quite basic, with soft or hard-knee attack replacing the usual attack rate parameter. You're not spoilt for choice, but what you need is there, and let's face it, using the M-One as a stereo compressor is not something you might immediately choose to do. Although there was a tremolo effect, it was surprising not to find an autopanner patch anywhere. Anyone who makes dance music will no doubt find this an irritation.



The retro-style multi-coloured LCD display shows all the detail at a glance – routing, program number and FX types

The chorus, flanger, phaser and pitch-shift effects proved quite noisy in contrast to the other effects, which were generally very quiet; however, this often tends to be the case with effects of this type. In theory you could place the gate/expander after them if it was a real problem. There are generally two styles of effect available for each of these algorithms. In the case of the chorus and flanger these are called 'classic' and '4-voice'. The latter of these essentially combines two of the basic effects to produce a thicker sound. For the phaser effect 'vintage' and 'smooth' options are available, and for pitch-shift, 'detune' and 'pitch'. The two pitch options equated to a micro pitch-shift with a range of +/- 50 cents, and a harmonizing pitch-shift with a one octave range up and down.

The final effect available was the parametric EQ. This offered three bands of fully parametric EQ, with high and low shelving bands. The parametric bands each offered the same facilities, with 12dB cut or boost across the full frequency spectrum (20 Hz-20 kHz) and variable bandwidth. In practice, the EQ sounded fine, and was very useful when used in series before a reverb or delay.

Verdict

Overall, the M-One is a good performer. In its favour, ease of use and lack of multiple pages definitely rank highly. In many ways, the effects elements make it feel like an updated version of Yamaha's SPX 90, but in all fairness, with much better reverbs. It goes to show that if an FX unit is programmed properly, you're not going to need to modify loads of parameters. However, it seems strange to combine high-quality reverbs and delays with EQ and compression options, but omit something as simple as an autopanner.

In the last couple of years quality effects units at affordable prices seem to have appeared in abundance. For example, Zoom's ultra-inexpensive 1201 unit (last spotted at £90) has proved incredibly popular with many pro engineers. However, the M-One is a cut above that sort of unit, and let's not forget that it *is* 24-bit. In essence, there are a couple of things that really stand out with the M-One: you can run two top-quality reverbs at the same time, and modify them with the minimum of fuss.

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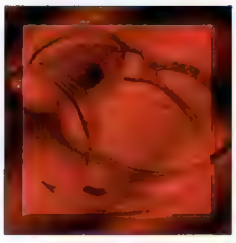
new releases



All the major album releases of the month reviewed and rated, our snap verdicts on the best of the rest, and our classic sessions spot *Milestones*

in brief

GENERATED X-ED *Protest and Survive* (Earache) Self-styled German 'dance terrorists' GX wade in a morass of hardcore techno, hip hop, drum 'n' bass and industrial music. Bubbling sub-bass, tinny cymbals and a host of tiresomely predictable, shouty vocal loops... if ever a release demonstrated the musical futility of energy without purpose, this is it. (SO)

CROWDED HOUSE *Afterglow* (Capitol) A collection of B sides and unreleased material. Although most of the songs here aren't as catchy as their hits, this will really appeal to true fans. (CW)

TIED AND TICKLED TRIO *EAT EAZ* (Pervola Records) German ambient jazz (with Johannes Enders, International Jazzman of the year 1989-91 and the Acher Brothers from Notwist) that sounds like a Wim Wenders soundtrack. Moody. (PS)

ANIMALS ON WHEELS
NUVOLI I CADIRA
(NINJA TUNE/N TONE)

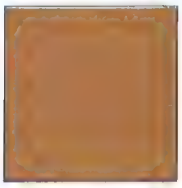
Like many Ninja Tune trips, this *Animals On Wheels* excursion is a well-built, topical blend of samples, beats, breaks and snatched, occasional, vocals. In this particular case, the above are all played out in front of various ambient pads, kind of like a funky loungecore for computer musicians with attitude who want to score movies. Shakers come and go, vibe riffs rise and fall, notes linger then get swallowed up by some drumming and the far-out feel lasts the full 52 minutes. A must for chill-out chambers everywhere, it sounds pretty good on the home hi-fi, too. • *Phil Strongman*

Producer: Andrew Coleman
Studio: Duck
Engineer: Andrew Coleman
Verdict: The nuvoli wave of now electro.....8/10

MR BUNGLE
CALIFORNIA
(SLASH)

Mike Patton's latest may come as unpleasant news to *Faith No More* fans who sought more of the same, because twisted cabaret metalfunkrock this ain't. If I listed all the references and styles Patton throws into California's musical melting pot, I'd run out of space before I'd even got to Sardinian folk music (really). But if the ingredients are chucked in with abandon they're also expertly stirred, and what could have sounded like a cut-and-paste hash ends up surprisingly coherent and powerful. The kind of music Zappa would pen, if he'd been born 20 years later. • *Simon Ounsworth*

Producer: Mr Bungle
Engineer: Billy Anderson
Studio: Various
Verdict: Gives eclecticism a good name.....8/10



WILLIAM ORBIT
PIECES IN A MODERN STYLE
(WEA)

William Orbit: the most talked about producer of, er... the summer of '99. After producing Madonna's much-discussed *Ray of Light* album, along comes the lukewarm *Pieces in a Modern Style*, a collection of self-indulgent interpretations of selected classical pieces. Old-timers such as Vivaldi, Handel and Beethoven rub shoulders with relative newcomers Barber, Cage and Gorecki, and all are given the Orbit treatment, but is it any coincidence that it sounds five years out of date already? Barber escapes relatively unscathed, the others don't get off so lightly. • *David Tobin*

Producer: William Orbit
Engineer: William Orbit
Studio: Orbit's own, Gorilla Beach (LA)
Verdict: Switched-on Bach for the '00s.....6/10

MUSE
SHOWBIZ
(MUSHROOM)

Three lads from Devon who, as far as I can tell, have bones to pick with various ex-girlfriends. Muse must be getting pretty fed up of being touted as the next Radiohead – especially when their warbly, post-Albini take on angst rock sounds so much more like the late, great Jeff Buckley. I'm always suspicious of songs you can sing along to the first time around, yet not remember ten minutes later, but, that said, this is a decent enough debut. 'Sunburn' and 'Showbiz' are real winners, and old master John Leckie wrings the most out of the other ten tunes. • *Simon Ounsworth*

Producer: John Leckie, Paul Reeve, Muse
Engineer: Mark Thomas, Boris Aldridge
Studio: Rak, Eden, Sawmills
Verdict: Solid, but slightly unspectacular.....6/10

2PAC & OUTLAWZ
STILL I RISE
(INTERSCOPE)

The sad irony of the 2Pac legend is that his greatest work has come posthumously. Titles such as this make one speculate as to whether 2Pac is alive, a theory fuelled by tracks like 'The Good Die Young', a coolio bass and synth workout on which 2Pac philosophizes. While the pathos of this album should not be lost – it was the Outlawz and 2Pac who dissed Biggie on 'Hit 'Em Up', beginning the fatal 'rap war' – the absence of Dr Dre's distinct, post-Zapp analogue production is glaring; tinny, dated '80s key fills are too unambitious against Shakur's lyrical pride. • *Jon Andre Holley*

Producer: Various
Engineer: Various
Studios: Various
Verdict: California's quick fling.....7/10

DON AIR
CARPENTER'S DELIGHT
(RESPONSE)

A debut from a behind-the-scenes lad who's roped in various pals, like the near-legendary Stereo MCs and MacMillian and Anderson, to help with the mixing. A strange and delightful mix it is, too; a blend of dub reggae, keyboards and effortless vocals. If you think such a concoction must sound corny, think again. Even though tracks like the mock-ska effort 'Desert Dancer' (which comes with twangy gee-tars and sampled vinyl noise) start like novelties, they soon get to be something more intriguing. I don't know what Don's on, but I'll play this again and again. • *Phil Strongman*

Producer: Don Air
Engineer: Don Air
Studio: Frontline
Verdict: Time to take the air.....8/10

PRIMAL SCREAM
EXTERMINATOR
(CREATION)

Bobby Gillespie's promise of "an autobahn from Cologne to Detroit," signalled a time machine visiting many genres and eras; not since *Doctor Who* has wanderlust been so good. Ironic, then, that the title is *Exterminator*. From Fela Kute to Miles Davis, rave, rap and thrash, Primal explore all without being derivative. How apt the techno-rock 'I'm Five Years Ahead of My Time'. Eons before nu-metal bands fused hip hop and urban sensibilities, before The Chemicals, who mix 'Swastika Eyes', Primal presented *Screamadelica.* Now they're back, with a vengeance.• *Jon Andre Holley*

Producer: Various
Studio: Dyslexic Jokey Land Studios
Engineer: Andy Wilkinson, Max Hayes
Verdict: Hip rock don't stop.....8/10

SUPERSUCKERS
THE EVIL POWERS OF ROCK 'N' ROLL
(ACES & EIGHTS)

Suckers they ain't. Super? Well, they're kinda close, combining influences from '70s glam, dirty grunge, the best of Brian May, Chili Peppers low-key (yet ultimately perfect) rawk production prowess, and the classiest angst-ridden lyrics this side of Nine Inch Nails. But the glory is that they simply don't sound like anyone else around. Lyrically, they've got their references sorted in the best rock tradition; drugs, sex, and all the usual topics are approached with abandon. Musically, the guys are on top form – not always tight, but their energy makes up for clinical accuracy. • *Michael Stand*

Producer: Kurt Bloch/ Supersuckers
Engineer: David Fisher
Studio Studio Litho, Seattle
Verdict: Refer to the title.....7/10

in brief

VIGILANTES OF LOVE *To The Root of The Sky* (IBC) VOL bill themselves as "alternative country meets garage" (in the US sense of the word). Imagine a very developmental REM circa *Murmur* with an annoyingly Tom Petty-esque singer Yawn. 'Nuff said. (AR)

MONTY ALEXANDER *Stir it Up – Music of Bob Marley* (Telarc DSD) Not just another covers disc, Monty is a serious reggae-mon from way back. This is also a dual CD/SACD release cut at one bit and 2.8224 MHz. Is this da future? (PS)

BURNT FRIEDMAN & THE NU DUB PLAYERS *Just Landed* (Scape) Friedman, a confirmed experimentalist, reunites with his old crew to deliver a controlled album of downbeat 'Nu Dub' with a wholly contemporary edge. A collection of solid, laid back, if slightly anonymous tracks ideal for late-night reflection. (OO)

MILESTONES: 1972

ALICE COOPER
SCHOOL'S OUT
(WARNER BROS)

Come the '70s, a country too [illegible] prepared for Alice Cooper. Most guitar [illegible] were [illegible] and [illegible] a [illegible] [illegible] rock'n'roll, delivering [illegible] Detroit's [illegible] glory, but in the USA Mister Vincent Furnier [illegible] and Alice – as the act [illegible] a point of subversion, a man in make-up fronting a [illegible] band with a [illegible] name. Alice Cooper. The group were initially signed by Frank Zappa for achieving the feat of [illegible] a venue, but the two albums they delivered to Zappa's Straight label sold badly. At Warners, [illegible] Bob Ezrin in control [illegible] act and the fact that Alice was now [illegible] [illegible] [illegible]

Picking up the pieces

words **Andrea Robinson** photography **James Cumpsty**

After the untimely death of Michael Hutchence, it was down to his producer and friend Andy Gill to finish off the debut solo album that would reveal the other side of the wild Australian rocker...

To many, INXS frontman Michael Hutchence was the embodiment of sex, drugs and rock n' roll – from the tabloid scandals and supermodels right down to his infamous end in that Sydney hotel room in November 1997. But ironically, Hutchence had been about to reveal a different face to the world – for the two years prior to his death, he had been in the process of reinventing himself via an album project with Gang of Four guitarist Andy Gill.

Co-produced and co-written by Andy, with additional writing/production by Black Grape's Danny Saber and guest appearances from Bono, Joe Strummer and Gang of Four's Gail Ann Dorsey amongst others, the album's textured soundscapes and dark, introspective lyrics are a million miles removed from the slick, stadium-filling '80s funkpop that made INXS international superstars.

Photo: Catherine Mayer

Andy (L) and Michael during the songwriting phase of the album. Some of Michael's guide vocals made it onto the final release

"I think with INXS, he'd sort of proved to the world that he could be this larger than life international pop star playboy character," says Andy, "but he knew in order to remain current, in order to remain relevant, you have to reinvent yourself, and I don't think that was happening within the INXS format."

The first seeds of this reinvention were sown in mid-1995, when Andy got a call out of the blue from Hutchence to play some guitar on a solo album he was starting. "I said yeah, absolutely", says Andy, "and then he called back ten minutes later and said 'Well actually, what I meant to say was would you like to come and write some songs with me?'. I later realised this was typical of Michael – because he was slightly shy he didn't like to presume that of course I would want to do that."

"I was never really into INXS, but long before I ever met Michael, I'd seen their videos and I remember thinking he had a fantastic voice and a very intense personality that engaged the viewer, and that I wouldn't mind working with him. And I knew he was into Gang of Four from what I'd read in interviews and so on, so when he phoned up I thought 'Good'."

So Andy, with studio gear in tow, headed to Michael's house just outside Nice in the South of France, where the first songs were conceived. "We spent a few days getting the basis of a couple of songs going. It worked out well, and we got on well, and we ended up spending five out of the next six months working together."

Andy met Michael at the height of the latter's persecution by the British media over the Bob Geldof/Paula Yates separation, a persecution which was to be a major influence behind the album's lyrics. "After we'd had our first attempts at a couple of songs, and we saw where one another was coming from, we had a long talk about the lyrics – which have quite a few elements of autobiography in them – and what we were on about. Michael spoke at length about how vindictive he felt the British media were toward him

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and Paula. I don't think anything really prepared him for that. He took it really badly.

"We were talking about it and I said 'A lot of people perceive you as this almost two-dimensional character floating across tabloid headlines in some kind of bizarre cartoon parody of a playboy lifestyle'. He was quite taken with that. So I said 'Why don't we turn that around, and do a song which is a kind of ironic cartoon take on this two-dimensional lifestyle, this bizarre playboy theme', which is where the song 'A Straight Line' started from lyrically.

"With that song, and with 'Get On the Inside', we kind of wrote the lyrics 50/50, but the other tracks were more just Michael. He just asked me for my comments about various lines, or if he got stuck with a line I would help out, but most of the other songs were all him and they are less humorous. Some of them are quite unrelentingly dark in mood."

The album's dark lyrics are reinforced by its intriguing, textured soundscapes. "We wanted to experiment with sounds and make quite big grooves," says Andy, "a kind of widescreen approach where we could get orchestral or industrial or whatever was necessary to work well with the lyrics.

"There are all kinds of funny-sounding things on the album, sounds that creep in and out. They're samples that have been treated in one way or another, or made from scratch on synthesizers. The [Roland] SH-101and the Nord are my favourites – you can make all kinds of odd sounds that are kind of reminiscent of something."

Photo: Catherine Mayer

Andy: "I remember thinking he had a fantastic voice and a very intense personality that engaged the viewer"

Over the next couple of years the two became very close friends, working together when their respective band schedules allowed. "Most songs would start with me programming some rhythms and playing some guitar. As soon as I got something going, Michael would join in and start singing on it, and that would then lead to other sections – either I would just write another section or the way he was singing made me think of another section. Both me and Michael had a lot of stuff behind us and we both respected each other for what each of us could do, so it was all fairly intuitive.

"One of the things that made Michael interesting to work with was that he was unlike a lot of singers who, once they get the melody and lyrics pretty well formed, that's it. Song finished. But Michael would always keep trying different variations to take the melody further, and would keep pushing the lyrics. Also, he would experiment with different voices and different intensities.

"That quite impressed me – the way he kept working at it. At times it kind of drove me mad, because I would be on 'Vocal Take Number 83' and it gets pretty hard to keep track of stuff. You know – you then need a couple of days sitting back listening to stuff, while he would want to keep going."

The last track Michael and Andy were to work on together was 'Standing On The Rooftop'. Two weeks after this final meeting, Michael was dead, and the album, now 85% finished, was the last thing on Andy's mind… "I was completely in shock." The tapes were in storage, the lawyers were haggling about the estate, and the media were having a frenzy.

"But then nine months later, I was beginning to think 'Well, I really hope this record comes out because I knew how important it was to Michael and how much creative energy and time and effort he had put into this thing, and how proud of it he was.

"The thing was that Michael had paid for everything out of his own money. His intention was to completely finish off the album, so he could have complete artistic control over the way it was put together, and then take it to whichever record company seemed appropriate. So after he died there wasn't any company going: 'Right, let's get

Andy takes us through his favourite outboard

ADA MP1: "I usually don't bother with guitar amps. The MP1 is a programmable valve preamp designed for guitar – I use it all the time on guitars and bass – but I also put drums, vocals, anything through it in mixes. I also use an ADA cab simulator, which applies various filters after the preamp. Sometimes I stick it through Marshall cabs and what have you in the live room, but nine times out of ten I just stick it through that and just use whatever effects seem applicable."

Avalon 737 Compressor/EQ: "I used this on Bono's Shure '57 on 'Slide Away'. I use it quite a lot on recording vocals and instruments."

Inward Connection Vac Rac: "I often use the mic pre and EQ when recording vox. The limiter is also very good, particularly on certain kinds of vocals."

Mics: "I used the Shure SM7 – which is like a hi-fi version of the '57 – on Michael. On Bono, I used a Neumann U67 that I bought from the Rolling Stones mobile when Bill Wyman sold it, as well as a Shure SM57 and Shure KSM 32."

Nord Synth: "This is not really outboard, of course, but I use it constantly on everything. Because absolutely every aspect of it is MIDI-controllable, you can go as far as you like in creating totally original and controllable sounds."

PYE stereo compressor: "This is from the '60s and it does not sound like anything else. You can be pretty extreme with it. It has a very good release control, so you can make drums compress and release in time with the track."

Sherman Filter Bank: "This is a bizarre and hard-to-control beast from Belgium. Put anything through it and it comes out as, well, not quite what you would expect. It's MIDI-controllable, so you can set up various controllers on the computer to make it do stuff in predictable and editable ways."

SPL Vitalizer: "I use this typically as twin mono channels to add deep bottom end to toms and basses in the mix."

TL Audio tube compressors and EQs: "I always get a result with this gear – very high-end equipment at reasonable prices."

Valley Audio Dynamite 3 compressor: "Great for very punchy kick and snare."

Andy's studio: selected kit list

Console
Neve 51 series (72-input) with fader automation

Recording
Mac G3 running Logic 4.07 and Pro Tools 4.3
Alesis Type II ADAT x 2
Ampex 1/2"
Fostex D-10 DAT
Panasonic SV-3800 DAT

Monitors
Yamaha NS10M
Dynaudio M1
Dynaudio BX30 subwoofer

Sounds/processors
Akai S3000XL sampler
ADA Programmable Tube Preamp and Microcab
Clavia Nord Rack virtual analogue synth
Roland SH-101 synth
Avalon VT737 compressor
Avalon AD 2044 stereo compressor
Sherman Filterbank
TL Audio C1 compressor and EQ2 parametric valve equaliser
JoeMeek VC1 and SC2.2 compressors and VC5 EQ
Lexicon PCM70 and PCM80 multi-FX
Retrospect Squeeze Box compressor
Drawmer 1961 EQ
Drawmer DS201 dual gate
SPL Vitalizer
Valley Audio Dynamite compressor
Vintage Pye compressor
Assorted Lovetone guitar pedals
ElectroHarmonix MicroSynth, Electric Mistress flanger and Small Stone phaser pedals
Focusrite Red 7
Vac Rac tube preamp, EQ and limiters (x 2)

this finished and get it out.'"

Enter Richard Branson, who happened to hear about the album through a chance meeting with one of the INXS road crew. With Branson's record label V2 onboard, things started rolling again, and it was up to Andy to finish the project, with the help of Steven Price, the house engineer at Andy's own London studio. And so the painstaking work began, with Andy spending three months alone with Logic and Pro Tools, compiling the best vocal takes out of the dozens that had been recorded for each song. He admits the task did his head in a little bit...

"I knew this was it. There were no other vocals – whatever Michael had done was what I had to work with. That really came home to me a lot when I was working on four unfinished songs: 'Slide Away', 'Flesh and Blood', 'Standing on the Rooftop' and 'Let the People Talk'.

"To begin with it was quite difficult, listening to all his vocals, especially the earlier ones, when quite often he would stop halfway through and there would be a conversation between me and him about what we were going to have for dinner that night, or something like that – I spent quite a lot of time staring into space doing nothing. But after I few days of that I thought 'You really have to roll your sleeves up, get stuck in and do the best job you can do', which is what I feel I did.

"I went back and complied what I saw as being the very best vocal out of everything he had done. I mean, there were earlier versions on ADAT or on hard drive from when we were writing and demoing them, plus all the vocal takes he had done when we were in the 'studio proper'.

"Sometimes there were phrases and things he had sung right in the early stages, I guess when he just didn't care exactly what he was doing, when he was really experimenting, which adds to the spirit of it. I used those, and I also used lines from the last takes. Bits of lines came from all over the shop and I compressed them, mixed and matched and got them to all sit together."

Various types of vocal processing are in evidence throughout the album. "There are bits, yeah. There are some points in the mixes where the vocals obviously go tweaked out, and that's either from sticking it through some kind of distortion or some kind of extreme EQ, or through an Amp Farm plug-in. Amp Farm is meant for guitarists but it is great on anything and everything really, and I use it quite a lot on vocals. Especially if there is one vocal playing off another and I really want them to sound very different and have their own space.

> "I would use anything, any kind of pedal or effect or EQ or compression to give a vocal its own unique identity"

"But I would use anything – any kind of pedal or effect or EQ or compression to give a vocal its own unique identity. Very often you try something that sounds terrible, and you move on to the next thing and you think 'Yeah, that sounds fantastic'.

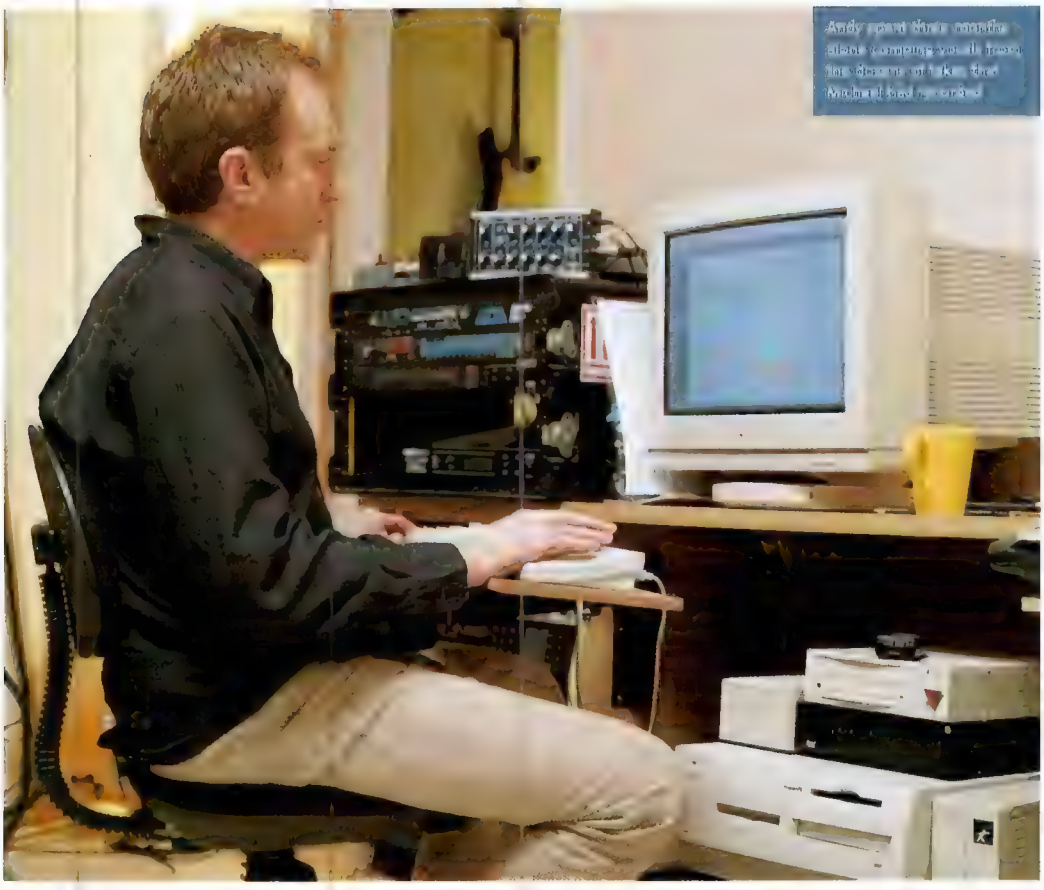
"Once I got past the original stage of sifting through the vocals, which was pretty long-winded, I felt things were a lot clearer and I knew where to go with it."

Was it in Andy's mind to do what Michael would have wanted, or did he just follow his instincts? "I think I followed my own instincts. Having spent a lot of time working with him doing all the other songs, it was sort of second-nature knowing the kind of direction he would have wanted to go in. He was very trusting of me to get on with it – if something wasn't sounding the way he wanted to hear it he would say so, and he would suggest things and pick out particular notes or whatever. But a lot of the time he trusted me to get on with it, so I didn't find myself thinking 'Oh, I wonder if Michael would have liked this?'. I just sort of knew if something was right or not and pretty much got on with it."

Despite his fondness for all things hi-tech, Andy still finds room in his heart (and studio) for some old classics like this Ampex 1/2"

Andy enlisted various musical collaborators to help complete the unfinished tracks. Bono, who came in to complete the vocals on the haunting 'Slide Away', was one of these, and as a friend of Michael's who had often popped in on the South of France sessions from his house down the road, he was an obvious choice.

"Bono brought a couple of lyrical ideas with him – in fact, if you listen to the song, it starts with his melody and his lyric, which he repeats a couple of times, and then it goes into what is quite obviously a new melody, which was the one I wrote. I'd put down a guide thing myself in my own croaky voice and he kind of got what I was talking about instantly, and it didn't take us that long to get it down.



"We started off in the control room. I was trying to get Bono straight into the live room to sing through a '67 and he said 'No, I want to sit in front of the speakers in the control room and just experiment with this '57'. So once we had run through it a bunch of times and knew where we were going, we went in the live room and started on the '67. Of course, inevitably, some of the things he did on the '57 were really great and had to be used, so I was back in the same situation of trying to match up different microphones and different environments.

"The funny thing is, I quite like that. You know, to some engineering purists a vocal has to be captured on one mic in the same situation in order to maintain the integrity of the performance, but to me, the little changes of timbre between different mics and different rooms can create a kind of interest through the vocal and you can actually play on that and use it. So for certain phrases, certain bits, the quality of the vocal changes slightly and the listener doesn't know why. You may not even be conscious of it, but it is part of the flow and expression of the vocal, and that can be used quite creatively.

"This was the final track we worked on, and it was almost a way for me and Bono to say goodbye, like a conclusion to it all, you know, and I feel quite lucky to have been able to do that bit of work at the end to kind of finish it off. You know when someone dies and you miss them you are left hanging in mid-air, and I think to be able to work on something positively, something I knew he would have wanted finished and released, was quite good for me."

With Andy having co-written, produced and played on the majority of the songs on the album, it seems a bit strange that it has been tagged as a Michael Hutchence solo album.

"I think that's the case with a lot of record producers. Sometimes producers don't do that much, other than tweaking the sounds and keeping the vibe going and that's fair enough. But often, with lots of producers, half of the creativity is from them but they don't get their names on the front cover; their names are in the small print. That's just the way it is – if that's a problem, if you want the limelight, then you don't want to be a record producer.

"But that is right, there is an awful lot of me in this thing, having co-written the songs, having played on all the songs, having produced it. Had Michael lived, the intention certainly was to do this stuff live, and perhaps he might have wanted to call it a band name. But it doesn't bother me that it is called Michael Hutchence's record. After all, he is the singing star, and he pulled the whole thing together."

> "I knew this was it. There were no other vocals – whatever Michael had done was what I had to work with"

Michael Hutchence will be re-released this year with 'Standing on The Rooftop' and 'Let the People Talk' included. For more on Andy Gill, check out www.gillmusic.com

'Flesh and Blood'

"This is one of my favourites on the record. We must have recorded that song two or three times in the studio, and we kept doing it differently. We just couldn't get the music right in a way that moved the singers and the band. We tried doing it with a band and with different kinds of instrumental things going on, but we just couldn't get it.

"When I came back to the song more recently, it seemed to be a lot clearer to me. Without wanting to sound pretentious, it is sort of dwelling on the nature of mortality. Songs are really just [illegible] and this one touches on the more poignant moments in circumstances. When it was first [illegible] was to keep every lot of what we had in there and to use a piano and a [illegible] that basically we ended up [illegible].

"Once I'd decided to do it that way and added my vocals, things really started to fall into place. I started trying too hard with the music and actually stripped a lot of the music away and made it more simple, with a kind of [illegible] going through it. It definitely seemed to get over the lyrics and the singing and that is possibly one of the most [illegible] tracks. It was so hard getting there, and on the third attempt we finally cracked it, you know."

CD info

track 07-13
20 industrial funk-tinged loops created exclusively for *The Mix* by Andy Gill

Metropolis Complex

words **Oz Owen** images **James Cumpsty**

The Mix takes a trip to London's biggest independent recording complex, and just happens to bump into two top record producers...

If ever an antidote was needed to the often serious and clinical facades of the average pro studio, then a trip to West London could be just what the doctor ordered. Here, set back from the Chiswick High Road, is the location of London's biggest independent studio complex: Metropolis.

The facility is the vision of one man, Carey Taylor, who set out with the ambition to build Europe's leading recording and mastering complex. That was way back in the murky depths of the late 1900s – '84 to be precise – and it was shortly afterwards that he found the perfect building to house his new project.

Some might have criticised his timing; the mid '80s were hardly the time to be sinking seven-figure sums into establishing a commercial studio of monolithic proportions, especially given that some high-profile competitors were either going to the wall, or hovering perilously close to it. Still, through good times and bad, there's always a market for the best, and so it was that Metropolis saw their way to the end of the last century to carry their penchant for quality into the 21st.

Built inside the shell of a disused power station, Metropolis could hardly be described as a regular recording facility – something that becomes immediately apparent when first entering the complex. The reception area expands some 100 feet above your head, with huge windows allowing the daylight to flood into the building, illuminating the mezzanine restaurant and the sprawling walkways that afford access to the upper floors.

Al Stone – in-demand, million-selling producer

In keeping with its industrial background, the one-time power station still maintains a big presence, and Metropolis is often described as a one-stop solution for all recording, production and mastering needs, offering, as it does, some of the finest expertise and equipment to be found under one roof anywhere the world over.

The complex started off with just two recording studios, but has grown very rapidly, as Julie Bateman, the studio and mastering manager explains. "We now have five studios, two programming suites, and three mastering rooms. As well as that though, we're getting very involved in the whole 5.1 mixing and mastering process, particularly towards DVD.

"It's been quite slow to take off, but I think a lot of people are suddenly realising that 5.1 is going to be very important, and we are getting more and more enquires about mastering and mixing in 5.1. DVD Audio will start taking off much more when there's a compact version for the car, because a 5.1 mix in the car sounds absolutely incredible.

"At the moment, if people are mixing in stereo, we offer them the opportunity to mix in 5.1 should they need it in the coming years. Once set up for a stereo mix, it's more cost-effective to do the 5.1 mix at the same time rather than start from scratch." In fact, Studio E has been purpose built for 5.1 mixing, making it one of the few places in London where you can do your programming, recording, mastering, mixing, and DVD under one roof.

But don't just take it from the guys at Metropolis. We spoke to two of the UK's leading producers: Al Stone, co-producer of last year's platinum-selling »

selected kit list: studio A

Console
Focusrite Forte Series 72- channel
Monitoring
Genelec 1035A
Yamaha NS10
Recording
Otari MTR100
Otari MTR90 mk.I
Mitsubishi X850 mk.I
Sony 3324 and 3348
Ampex ATR100 1/2" and 1/4"
Outboard
EMT 140 plates
Lexicon 224XL
Lexicon PCM70
Yamaha SPX 900
AMS RMX16
Eventide H3000S
AMS stereo DDL
Roland SDE 3000A
GML8200 stereo EQ
Pulsec EQP1 valve EQ
Prism Maselec MEA-2 EQ
DBX 165 compressors
Neve 2254 compressors
Urei 1178LN compressors

selected kit list: studio E

Console
SSL 9000 J 8072 72-channel
Monitoring
PMC 5-channel surround system
Yamaha NS10
Recording
Otari MTR100
Otari MTR90 mk.2
Mitsubishi X850 mk.2
Outboard
Lexicon 224XL
Lexicon 480l
Lexicon PCM70
Yamaha SPX 1000
AMS RMX16
Eventide H3000DSE

One of the two programming suites. You can't get away with an Atari and a JV1080 these days, you know

Synkronized, Jamiroquai's fourth (and most successful) album, and Andy Wright, who has recently taken on one of Metropolis' production suites full-time.

"I spent most of last year, from about March onwards, at Metropolis doing a lot of mixing work on various projects," says Al, who has something of a long-standing relationship with Metropolis. He's been working in Studio E, "mostly with the band Ether, and a guy called Lyndon David Hall. Then Andy and I got together on a co-production which kept us busy for the last three months of '99, doing an album with a guy called Ryad, who's on a new label called Riverhorse Records".

The mezzanine restaurant, where many a fine meal can be had in between recording sessions – just ask the resident chef

Andy continues, explaining his reasons for taking up residence at Metropolis. "Because they'd have me and no one else would," he laughs. "No, it's because this is a great place to be. It looks impressive, and is a fantastic place to work. I've had my own studio since 1993, and it was always very difficult for me to keep the place going efficiently. I never really employed people to run the place, so certain things drove me mad after a while. The rock'n'roll people who came in to work there never had a problem with it – they liked the funky atmosphere and the good vibe – but I also work quite a lot with advertisers who just didn't get it."

Both Al and Andy have worked with a wide range of artists, and over the years have built a reputation for maintaining a professional, yet easy-going attitude in the studio. "The thing with production techniques is that there are no rules," Al insists. "It depends who you are working with. It's important to understand what they do and don't like, and always try to keep one step ahead of them. It's about your creative environment, your spontaneity, everybody feeling cool, but at the same time knowing that there's one person in the room who looks like they're in charge. Mostly, though, it's about encouraging the best out of people, knowing when things are going wrong, and then being able to turn it all around – making the best of every situation, even when the situation is not at its best.

"It's also about making people feel comfortable. Being an engineer, you work with a lot of singers, and can you imagine going into a booth with the headphones on and the lights off? It can be a very lonely environment, so it's important to give them a feeling of ease and comfort. If you don't get the best out of your performer or artist then you're going to sell the project short and you won't achieve a result that you can all be happy with."

"Producing a record is actually very difficult," insists Andy, "mostly because you're carrying so much responsibility – not just with the budget, but also with people's lives. If you mess it all up, then the artist's life will take a different course, so it's your job to make it work for the artist. You have to think ahead about what you want it to be before you start on a project, rather than blindly going in and thinking 'Well, I'm really talented and I'll get there in the end.' That's not very clever.

"The other important thing is to trust your own opinion – it's amazing how many people don't. If you actually ask somebody who doesn't make music for a living, they are usually a lot better at telling

you what's good or bad about a track. You must ask yourself 'Does it sound good?' And if it does, move on. I think that's the biggest, single most important thing for me in music – actually trusting the way I hear it."

Al is very much from an engineering background, so like all good producers finds it very important to have a room which is true to what you're hearing. "That way, if you do a mix and then take it home, there are no surprises, like 'Oh no, where's all the bottom end gone?' or it sounds really dull."

Andy, who recently co-produced the forthcoming Simply Red and Eurythmics albums, agrees that putting people at ease is of paramount importance. "I've seen [Eurythmics] Dave Stewart do this thing where the artist is out there singing and he just gives them the thumbs up from the control room, even if it's not been a particularly good take. The strange thing is that it actually peps the whole thing up – it's about being positive and making the artist feel confident.

"Making a record is about the way you feel, and at Metropolis you have the technical back-up which really frees you up to concentrate on the creative aspect.

"You imagine if Mick Hucknall came in – he wouldn't want to know if four channels are down. When you're working with a big artist, they want to know whether they can start singing now and when they can get on with it. Here, they are technically able to cope with that – everything works and if it doesn't, then the maintenance department will sort it out after we've gone home.

Al takes up the reins: "Nobody's interested if they don't understand the technical side – they just want to know why they can't sing or play guitar. You know, if someone comes in and says 'Quick, I've got an idea,' and you say 'But we can't, the EQ on channel 12 is broken,' then you've lost that productivity, so it's very important that the place is fully-functional.

Effects, dynamics [illegible] possibly want from a [illegible]

"At Metropolis they've got a very good technical spec throughout; the equipment is maintained to a very high standard. They have some great rooms and can accommodate different budgets when necessary. I can use a J-series console at £1,200 a day, down to a 48-track desk for £800 a day, which gives me the flexibility to work with smaller or bigger budgets. And the assistant engineers are very competent, and that makes my job a lot easier. I've worked in a lot of the big studios, but there is something about this place that is very welcoming. You can come and socialise, there's the bar and restaurant as well – basically there's more on offer here than just a studio, and that's my reason for coming here."

More from: Metropolis. Tel: 0208 742 1111

recent clients

RECORDING:

Richard Ashcroft
David McAlmont
Atomic Kitten
Longpigs
Rod Stewart
Pet Shop Boys & Mast
[illegible]
Jan Brewer
MASTERING:
All Saints
Everything But The Girl
Asian Dub Foundation
George Michael
Geri Halliwell
Incognito
Primal Scream
Robbie Williams
Van Morrison
The Cure

rates

£775-£1,200 per day

Dr Pepper

Beyond the matrix

words **Jon Andre Holley** photography **James Cumpsty**

The rising 21st century star of drum'n'bass talks to *The Mix* about producing Goldie, his own debut album and selling out...

Matrix is every inch the future. From the incredible pyrotechnics on his debut album *Sleepwalk* (Virus) to his rather individualistic sense of fashion, the West Londoner simply reeks of all that is modern, cosmopolitan and innovative. Sitting in his high-tech studio in London's fashionable King Road, I am drawn as much to the fact that Matrix is adorned in a compelling red and black-hooped top – sort of Dennis The Menace meets Star Trekky circa *The Next Generation* – as I am the arsenal of gadgetry at his side. Make no mistake, this man is pure science *fact*.

"Matrix (a.k.a. Jamie) was born to make a statement, in whatever he turned his ingenious hands to. The son of a *Vogue* magazine working father and a mother steeped in PR/management, he learned the violin at primary school and was proficient on sax by his teens.

"I played sax for quite a few years," beams Matrix, hoops screaming out all the while. "I would play Stan Getz numbers like 'The Girl from Ipanima' and try and play along to Miles Davis records. To be honest, I totally loved it, but I gave it up when I was doing my GCSEs. The next time I picked the sax up I wasn't as good, then I got into the electronic side of music and never looked back."

Indeed. Apart from his own album and a host of remix work, he also provided the not-so-incidental music for the recent Flake ad campaign, and has started working with Goldie. "We did a remix of Machine, a harder-than-hard American rock band, which was cool – lots of screaming vocals. It was all very hardcore, but not in sub-genre sense."

Matrix is also co-producing Goldie's forthcoming album. Having "done all the concepts," the duo are now "stretching out and having fun". So far, Goldie has decided to go down the avenue of using lots of exotic live percussion and drums. You never know what he is going to come up with – that is part of the challenge of working with the man.

"He hasn't got anything to prove anymore. Least of all to himself. When he did *Timeless* a lot of people saw him as taking drum'n'bass out of the underground. Then, with the second album, he did something artistic, deep and personal. He certainly does not need the money. His studio is fantastic, with all the right gear: a Mackie Digital 8 Bus, Emu E6400 and an ultra-serious Apple Mac souped up with various cards. He doesn't need the exposure, nor the money, so he's extremely relaxed on this project and just having fun...

"We've done this track 'Storm Trooper' which is like an old-skool raw sound of the kind that Goldie first did on *Metalheadz*. It sounds awesome – stark and earthy."

So, let's discuss the aforementioned Flake ad. "That was funny. It came about because I love that bar so much. I was so into the project!" Sarcasm pervades his air of honesty. "No I'm joking, I did it because they gave me a lot of money, pure and simple, I'm not going to pretend that I did it for the art. I threw away all artistic integrity. There, I've confessed all!"

Actually, for those that have heard the accompanying groove, it is one of the best advert tunes since... well, since Jean Jacques Perray's 'EVA' was employed to promote a certain orange-coloured glucose energy drink. "In the end, I was quite pleased with it. I tried hard to make the tune work." Matrix got the gig after a friend of a friend recommended him to the directors. "They needed an updated version of the old tune. They got various people to do demos on spec and mine was the winner. They actually gave me a brief that they wanted the whole thing to ooze sex, so I tried an ultra-contemporary sound with a Parisian red-light district vibe. They even wanted to release it as a single!"

Matrix used a Korg Z1 synth to achieve the essential melody parts. It's an instrument that he swears by. "It's very good for getting good imitations of real instruments. If you've got a trumpet sound going off in the mix you probably wouldn't convince a real trumpet player, but you could convince the man on the street."

"Other keyboards – the Korg Wavestations for example – are full of sounds that are based on samples. But I thought that was a waste of time – I've already got a sampler, so why go for samples that I don't personally choose? New keyboards like the Z1 employ a physical modelling technique that attributes theoretical simulating. For example, with a trumpet sound they program in the lips vibrating, the air going through the horn, vowels moving... it effectively simulates what a trumpet player would do. On the cello sound you can even hear the bow scraping. It's quite amazing and most accurate, not like those horrid brass sounds on older digital keyboards."

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From the makers of...XFADE, Bassist, Rhythm,The Mix, Future Music, Computer Music, Total Guitar, Guitarist and Guitar Techniques

The album *Sleepwalk* is very much an exploration of the depths of sophisticated post-modern drum'n'bass production. The spiralling cascade of beats is set against some of the most atmospheric, evocative soundscapes ever heard. The bedrock is drum'n'bass, but the outcome is pure stereophonic theatre, from the very first sonic strains of 'The Saint' to the tense, nervous thriller 'Asylum', onwards through the ethereality of 'Angel' towards the tumultuous triple-headed culmination that is 'Destiny', 'Air Head' and 'Junction'. Not since bluesman Robert Johnson did his mythical deal with the Devil has standing at the crossroads sounded so real...

"Drum'n'bass production is at the cutting edge," proclaims Matrix. "We go the furthest in terms of production. We don't just loop a breakbeat, we bend it. As for the textures, there's lots of processes. We pass a sound off an old analogue keyboard, distort it through a desk, resample it, filter it in a sampler and then run it through a desk." Sounds like the stuff of only the most well-equipped studios, right? Wrong...

"I wouldn't buy gear just for the sake of it. There is something to be said for not having lots of equipment. I get absolutely the most out of everything I use. I prefer to work with very little. In fact, I've got rid of one or two things lately. In a while, I might get more gear, but I like getting the absolute maximum out of my equipment and knowing it like my own mind.

"When it comes to that old debate about analogue vs digital, I'm rather sceptical. To be truthful, I think it's all a load of cobblers. I used to have a Mackie 8 Bus analogue mixing desk, then digital desks came out and they promised the world. They offered the chance to save mixes and change the working track at a flick of a switch. So I sold my Mackie and brought a digital desk. However, the sound was shit. I wasn't pleased with the mixes, and once I realised it wasn't my own lack of dexterity I dumped it in the corner of a room and brought back the Mackie 8 Bus from the guy I sold it to. Having said that, I've since bought a Mackie digital desk and I did one track on the album with it.

"Some people criticise samples and sequencers because they say it takes the talent out of making so-called 'real' music. But at the end of the day, it is still what you do and your ideas that count. Today, that sort of equipment is readily accessible so it means that anyone can make music, but it doesn't make the record for you. That requires that little bit extra." The discussion opens up to the 'dance music pioneer versus acoustic traditionalist' debate. Purist critics often argue the toss as to the melody content of modern music when compared to the classics of yesteryear. 'What if the guitar was the only instrument available?' they argue. What price the music of the '90s? Priceless, argues Matrix. "Drum'n'bass is more about rhythms. It's to do with sound – not just about the nature of a riff, but the exact sound. You can play the same riff with one type of sound and it will transfer well, on another it will sound shite.

"I don't buy that 'only if you can play on acoustic guitar' stuff. I think that's stupid, simply because it rules out so many records that I like. In fact, I'd bet that the people who put that argument across would rule out a lot of records *they* like. One of my favourites of all time is 'In A Silent Way' by Miles Davis. Try and play *that* fucker on an acoustic guitar! In my book it's

> "There is something to be said for not having lots of equipment. I like getting the absolute maximum out of my equipment and knowing it like I know my own mind."

selected kit list

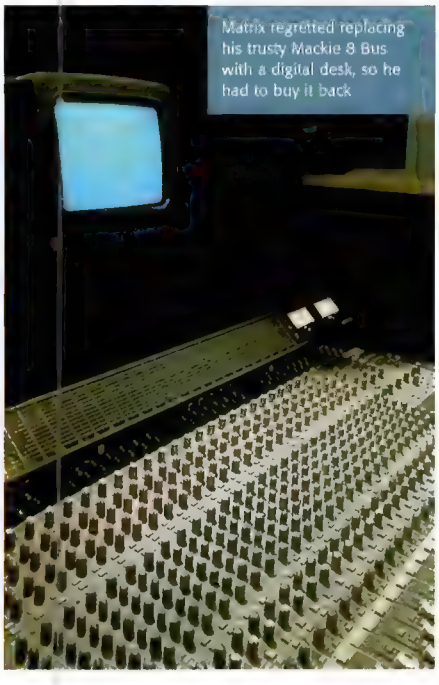
Recording
Power Mac running Cubase VST
Mixing
Mackie 8 Bus
Monitors
Dynaudio BM15
Yamaha NS10
Outboard
Focusrite Green EQ
Behringer Composer compressor
Alesis 3630 compressor
Behringer Ultra-Fx 2
Alesis Midiverb 4
Digitech Studio Quad FX
Sounds
Korg Z1
Korg Wavestation
E-mu E64 sampler
Sequential Circuits Pro One
Cheetah MS6
PPG Wave

CD info

tracks 14-18

Breakbeat loops and fills, chilled-out vibes and angry sounds straight from the Matrix studio. Sample and enjoy!

Technics SL 1200: the essential tool for scratches and spinning in the odd sample or two



Matrix regretted replacing his trusty Mackie 8 Bus with a digital desk, so he had to buy it back

Matrix used his minimalist set-up to create the atmospheric soundscape of *Sleepwalk*, his debut album

selected releases

International Rude Boyz *International Acclaim*

International Rude Boyz *The Steppers Reunion*

Matrix 'The Message 96/Sea Breeze'

Matrix 'Mute'

Matrix 'Fluid Motion

Matrix 'Snake Skin'

Dom and Matrix 'The Vandal/Footsteps'

Matrix remixes

Apollo 440 'Ain't Talkin' Bout Dub'

Ragga and the Jack Magic Orchestra 'Shot'

Voicov 'My Auntie's Armchair'

Makai 'Northstar'

Noise of Human Art 'Time and Vision'

Kirsty Hawkshaw 'Leafy Lane'

Smartabs 'Night Acoustic'

Dom & Roland 'Timeframe'

Ed Rush & Optical 'The Medicine'

Lisa Hall 'Connection 17'

Freshness on Wax 'Rip da Script'

Playboy Revolutionaries 'Burning Chrome'

one of best records of all time. It's about melody, sounds and the way they play off each other."

The first ostensibly drum'n'bass record Matrix ever heard was an obscure track called 'We Are E' by Lenny De Ice. It was during the acid house boom of the early '90s, during which time Matrix was cutting his dance music teeth at various warehouse raves across the nation. "Drum'n'bass is basically well-produced hardcore. Personally, I like the charm of being a kid in a bedroom making tunes. I just wanna make things simple, I like to have atmosphere and, at the same time, give the listener something that he doesn't have to listen to a hundred times before he gets it.

"The technology is there to do what you want with. A lot of critics don't understand the process. They think drum'n'bass producers and a lot of dance producers are people who work with samplers – taking a bit of one record and a big bit of another to make a record they call their own. There are only one or two things on my album where you can spot what I've sampled. Essentially, the most recognizable one is a trumpet riff more or less lifted from a sample CD, which I cut and pasted to make it slightly different. I never sample anyone's riff lock, stock and two smoking barrels. I might sample someone's sound and then play it myself and change it, top and tail it, to make it my own, but never totally in its original state. Basically by the time I've finished with it, it's utterly different."

> "Drum'n'bass is at the cutting edge. We go the furthest in terms of production. We don't just loop a breakbeat, we bend it"

Unsurprisingly, Matrix has somewhat eclectic musical tastes. He admits to enjoying The Charlatans latest album very much and passes more than a nod of respectful approval in the direction of Talkin' Loud artist MJ Cole. He doesn't however now rate techno above "boring," but his tastes do extend as far as the hip hop community, most specifically Cypress Hill, Busta Rhymes and quirky Bristolian speechsmith Tricky.

On the remix front, Matrix is most proud of his Kirsty Hawkshaw's 'Leafy Lane', "a delicate song with nice string arrangements that was a pleasure to do".

However, he is not so complimentary about one mix (which shall remain nameless) that shows the dilemma surrounding the fine line between remixing/reworking and complete production…

"I don't want to slag this group off, but the whole experience provided me with a valuable lesson. When I took on this remix gig, the people asked me to do it on spec and the brief was to provide the act with a tune that Grooverider would play at The Bluenote. 'Cool', I thought. But if that was to be possible it would have to be drastically different from the original.

"So I set to work taking it in a different direction. The vocal ended up being pitched down four octaves and put through a distortion pedal. It didn't even sound remotely like a vocal – more like a mad bass sound. I took it back and they said they liked it but it was too far removed from the original. They asked me to change it or I wouldn't get paid. Politely I declined, and thought that was the end of the matter until they came back to me and said that they'd had a change of heart and were going to use the mix, this time with the group laying down added parts over the top. They invited me to hear it, and so I decided to go along with an open mind.

"Having heard the result, I stuck to my guns and said 'Thanks, but don't use it please'. Anyway, eventually they decided to use my version in its original guise, which was great; however it taught me not to take on a remix gig unless I was prepared to base my work on the original. To be honest, they contradicted themselves when they asked for something that Grooverider or Goldie would play because it required a drastic reworking to achieve that sound.

"Another time I was just given dry vocals and asked to remix the 'track' because they said that the original wasn't up to scratch. Original? There was none. They were asking me to do a whole, full-on production job!" Many have, and many will follow, as listeners everywhere succumb to the Matrix…

The old and the new: Matrix's synths of choice are the Sequential Circuits Pro One and Korg Z1

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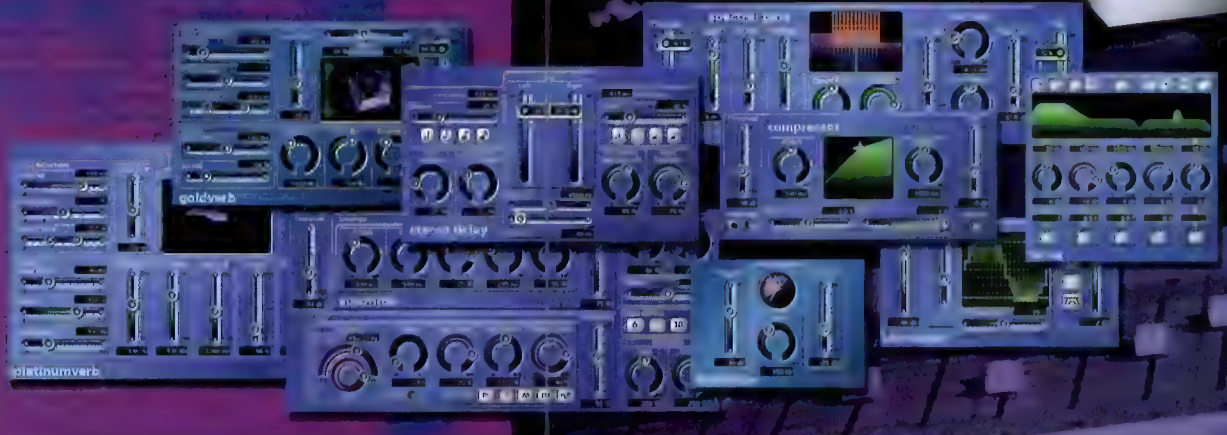

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For more **Emagic Logic Audio** information please return this coupon to **Sound Technology plc**, Letchworth Point, Letchworth, Hertfordshire. SG6 1ND. More info is also available at **www.soundtech.co.uk**.

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mac toolbox

Industry news, tips, advice, and software for Mac users, compiled by *Ian Waugh*

NEWS

Gibson strangles Opcode

In a plot that would be more at home in a John Grisham novel than the music industry, Gibson Guitars looks set to kill off all Opcode products. As it's all happening 'over there', UK coverage has been sparse. The tale is tangled, but we'll do our best to trim it down. Read on, because it could affect *you*...

A couple of years ago, Opcode were verging on insolvency and in May 1988 they were bought by Gibson. Opcode had every confidence that they would turn around and part of the deal involved an 'earnout' which would allow a retroactive increase in the purchase price, if this happened.

It didn't. Opcode continued to lose money and the president, Chris Halaby, suggested forming a spin-off company called Zero Crossing, which would take the Opcode source code in exchange for restructuring Opcode and relinquishing the earnout. Gibson wrote a letter of intent and told Halaby and his team to carry on while the negotiations were in progress.

Negotiations dragged on for five months. We saw Opcode software being made available on the web for silly prices ($59 for Vision DSP), Overture was renamed Fermata and development of Vision was halted at v4.5. Then Gibson stopped the negotiations – and the lawsuits started flying. Halaby tried to step back as Opcode president. Gibson sued him and the Zero Crossing engineers (who were then promptly dropped from the suit). Halaby counter-sued.

There was a stalemate in the boardroom. Opcode had four directors – Halaby, Dave Oppenheim, Henry Juszkiewicz (Gibson's CEO) and another director on Juszkiewicz's side. Juszkiewicz clearly wanted Halaby and Oppenheim off the board, but the two sides were deadlocked. Gibson stopped financing Opcode and made all but a couple of staff redundant. The case ended up in court and a fifth director was appointed, supposedly neutral, but then Juszkiewicz simply removed Halaby and Oppenheim from the payroll, in spite of them both having employment contracts.

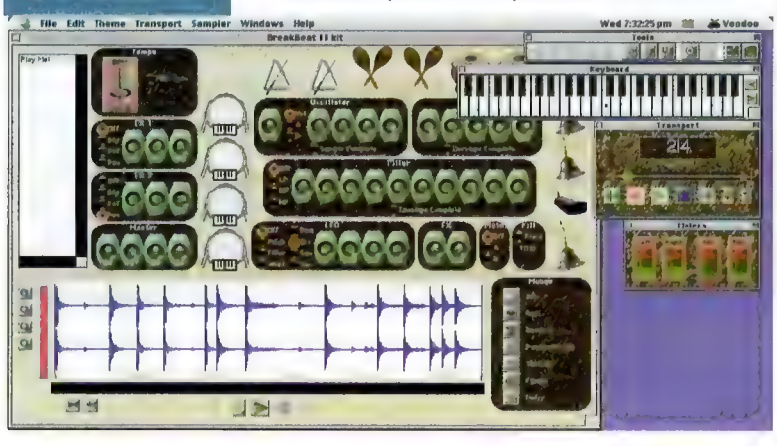
And that, dear reader, is the state of play as we go to press. Gibson have, apparently, been contacted by other companies interested in buying Opcode, but Juszkiewicz seems to be holding out for more money. The fear is that the longer he leaves it, the less valuable Opcode becomes; a buyer may never be found and he could refuse to release the code, even for OMS, which would make support impossible.

The outlook for the 20,000-plus users of Opcode software is bleak. The software is not being developed and there is no technical support. Recent news, just in, says that Gibson have stopped production of Opcode's DATPorts and SONICPorts.

More problematical is OMS. This, as you probably know, is the software interface supported by virtually every major piece of software and used to communicate with external interfaces and equipment and to route MIDI signals inside the computer. If this is not supported or further developed, it could mean other developers need to find an alternative.

It's a classic big-company-buries-an-individual case and Juszkiewicz has gone on record as saying that after a certain point there is no contract, there is no law and those who can afford the most lawyers win.

You can read more about this at: www.flash.net/~sgoldin/summary.html. You can read more about the Opcode case at: www.geocities.com/SiliconValley/Monitor/6454/. The pages contain links to a site where you can petition for the release of the OMS code.



The Preferences window contains lots of setup options that determine how Voodoo works.

RAM beeps

One of the problems – sorry, considerations – when running modern music software is the amount of RAM installed in your Mac. This is particularly true if you want to run a core sequencer plus a soft synth, soft sampler, soft drum machine, or all three! Fortunately, RAM is not very expensive and is, usually easily installed. You really need 64Mb in order to do anything half serious and, for anyone who wants to be completely serious, 128Mb is more reasonable.

Sometimes, however, there may be a problem with the RAM installation. Fortunately, Macs emit a series of plaintive beeps if they discover a problem during start-

up. Older Macs chime but newer Macs beep, though the beeps aren't all to do with RAM problems. For users of newer Macs contemplating a RAM upgrade, here are some helpful beep translations:

For Blue & White Macs G3s, iMacs, and G4s with PCI graphics:

- 1 beep: no RAM installed or detected
- 2 beeps: incompatible RAM type
- 3 beeps: RAM banks did not pass memory test
- 4 beeps: bad checksum error for the remainder of the ROM boot block.
- 5 beeps: bad checksum error for the boot block.

For a G4 with AGP graphics:

- 1 beep: no RAM installed or detected
- 2 beeps: incompatible RAM type
- 3 beeps: RAM banks did not pass memory test
- 4 beeps: no good boot images in the boot ROM.
- 5 beeps: processor not usable.

If you get beeps on start-up and haven't been messing with your Mac's innards, it could be time to call in a technician.

Voodoo

Last month it was Bitheadz' Black & Whites (whose price, incidentally has been fixed at £129.99). This month it's Bitheadz' Voodoo. How do they manage to churn out so much software so quickly? It's all done with mirrors – reflections of what has gone before. Both products are based around the Unity DS-1 sampler engine. Like Black & Whites, if you don't have Unity on your computer, the Voodoo installer installs a mini run-time version of it.

For all you hardware sampler users out there, a good analogy for Voodoo is that it works a little like a set of samples you'd load into the sampler and configure as a drum kit. Except Voodoo can lots more.

There's one main window with several ancillary windows. The main window contains four drum pads, each of which can be assigned up to four drum sounds or samples. The four samples allocated to a pad can be switched using velocity or other modulation sources.

You can load your own samples (or other people's) and create your own drum kits, but the program comes with over 60 pre-programmed kits including several 808 kits, country, electric, Latin, jazz, orchestra, R&B and rock, so you may not wish to take the DIY approach.

Click on the pads to play the drums but they can also be played from the on-screen keyboard and via input from a MIDI keyboard. The latency is so low the response is virtually instant. The program supports samples up to 24-bit recorded at 96kHz and different rates can be used simultaneously.

The other windows include a set of meters, so you can see the output levels, a transport control, a keyboard and a toolbar. The latter offers quick access to common functions such as undo, cut, copy, paste, all notes off, and record to disk.

But Voodoo has features above and beyond standard drum machine fare. In particular, it has a host of effects including gain, reverse, flange and delay. There are also parametric and shelf EQs. These are selected from a 'Munge' menu on the main screen. When applied, they physically change the sample; in other words they are destructive. But there are other effects and settings which work non-destructively in real-time. Global effects include delay, reflections and reverb. Each drum pad has an amplitude envelope with ADSR parameters. There's also a filter which can be set to low-pass, band-pass or high-pass. Parameters include cutoff and resonance and there is a filter envelope, too. We must not forget the LFO, which can be assigned to the pitch, filter cutoff or the amplitude. There are lots more controls; this is a versatile set-up. If you don't like Voodoo (we didn't), there are 12 other themes (though only two hit the spot for us).

So, you can program patterns and record them directly into Voodoo and it can import Standard MIDI File drum patterns, too. The main object of the exercise, though, must be to use Voodoo as an onboard drum machine and control it from a sequencer running on the same computer. And you can do just that. Voodoo (that is, Unity) has three MIDI input applications – serial, OMS and FreeMIDI – which are used to get MIDI into the Voodoo application.

The easiest way to route MIDI data to Voodoo from a sequencer for most will be to use OMS. There is also a Unity DS-1 ReWire plug-in, which allows the audio to be routed to the audio input of a ReWire-aware sequencer. Currently, this means Cubase VST, so you can route the Voodoo drums through individual VST mixer channels for even more control over the sounds.

However, all this will require a chunk of memory. You are most unlikely to be able to run Voodoo/Unity and a sequencer with 64Mb RAM. A complete installation with all the drum kits samples uses around 250Mb of hard disk space, too. The manual is very good, although it is on-line in Adobe Acrobat format. Unfortunately, there is no Contents list… and no Index.

Voodoo is another step towards totally-integrated computer-based studios. It's a bit involved, but has what you need for integration into a Mac-based set-up. For a demo, check the BitHeadz website (www.bitheadz.com) and our cover CD.

Voodoo is £129.99. More from Turnkey on 0171 379 5148.

CD info

track 01
Check out Voodoo's demo of Bitzheadz' software MIDI drum machine

Voodoo's pattern view lists the notes that make up the drum patterns

pc toolbox

News from the industry, advice, tips and software for PC users, compiled by *Ian Waugh*

NEWS

Win 2000 to ship February 17th

Er, that's about it, really. Bill Gates said it and you know if he said it, it must be true. There are lots of beta copies about and you will no doubt be reading lots of previews. We'll let you know what we think when the *final* version finally appears...

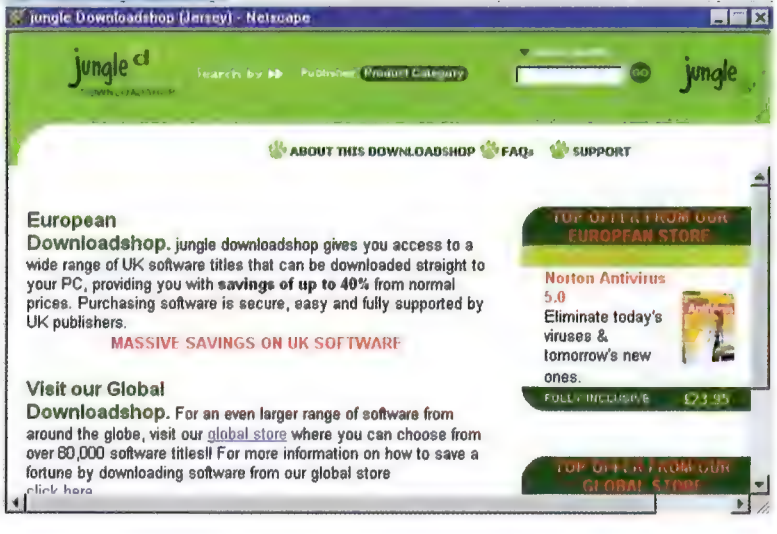
Here comes the judge

If you've been following the Microsoft vs the US DOJ case, you may want to know exactly what the court's findings of facts were. Well, you can read all about it at: www.usdoj.gov/atr/cases/f3800/msjudgex.htm. It's a 400K HTML document, but it can also be downloaded in Adobe Acrobat and WordPerfect 5.1 formats, too. That'll give you something to read at night and, if you print it out, you can use it in the smallest room afterwards...

DRAM down

Just to calm anyone who was worried about the ups and downs of DRAM (as reported last month), we now have it on good authority that the panic was a blip and a knee-jerk reaction, and that the price should now be down to pre-earthquake levels. If you want more RAM, it's safe to buy it now. There now, don't you feel that much better?

Jungle.com at Jersey: Customs and Excise threatened all sorts of nasty things to their sister if they didn't take this entirely legal site down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All the world governments whose countries have e-trade are buying brown trousers like they're going out of fashion (which they are, you know) at the thought of lost revenue in local taxes. The counter-benefits of e-trade completely elude these short-sighted denizens, but that's another story.

Our story concerns Jungle.com, part of Software Warehouse, which, as you might know, has been selling all sorts of cheap software and hardware on the web, including computers, DVDs and CDs. In a moment of supreme vision, it set up a download site in Jersey from which customers could download software without paying VAT. Entirely legal.

Now, a year and half later, the MD has said it will stop the Jersey operation because – and get this – he does not believe it is ethical. We say bollox! Hands up if you know any big business with ethics? Hands up if you know any company which is happy to pass up an honest bob? The operation is, or was, entirely legal. What's going on?

Rumour has it that the C&E squad put the squeeze on the parent company. Although it could not stop the legal Jersey operation, it could 'make life difficult' for the UK-based parent company. You just sit down and think about that. And all without the aid of a violin case. Yes, it's a jungle.com out there...

It's a mix, man

Beatnik and Mixman are merging. Beatnik are best-known for their audio streaming technology and Mixman for their virtual DJ/mixing/sample music construction software. Although Mixman are seen by many people at the pro end of the music market as being very entry-level, it is sufficiently popular for software developers such as Steinberg to support the Mixman.TRK format by enabling Cubase to import it. Mixman claims a user-base of millions; the format is certainly popular.

Together, Beatnik and Mixman have an extensive music and sound library, including both Top 40 artists

and professional music catalogues. The merger aims to provide an alternative to the fast-rising MP3. The format also has to compete with Microsoft's Windows Audio Media Streaming format. The new company also aim to help millions of musicians and Web designers to 'sonfiy' the Web.

Perhaps one format will win out, perhaps they will all co-exist peacefully, or perhaps there's another killer format waiting in the wings. Whatever may happen in the future, users and web surfers need to equip their browser to handle all formats – today.

Gibson guts Opcode

If you'd like to know what's happening to Opcode, take a look at the *Mac Toolbox* on page 80. Although Opcode have traditionally majored on Mac software, they do have PC software and have produced hardware for the PC. This could all be in jeopardy.

What's in a RealName

In case you haven't already discovered, there's an even easier way to find things on the net. It's called Internet Keywords and all you do is type the name of the site you're looking for into the browser. The system has been created by RealNames and has been integrated into the latest browsers such as Internet Explorer 5, search engines and directories.

None of this faffing about with wwws and dot-com malarkey. To use the system all you do is type a name into the browser. The query is routed to RealNames and, if there's a suitable site, up it pops. Try it with musical instrument manufacturers and software developer names. Neat, huh?

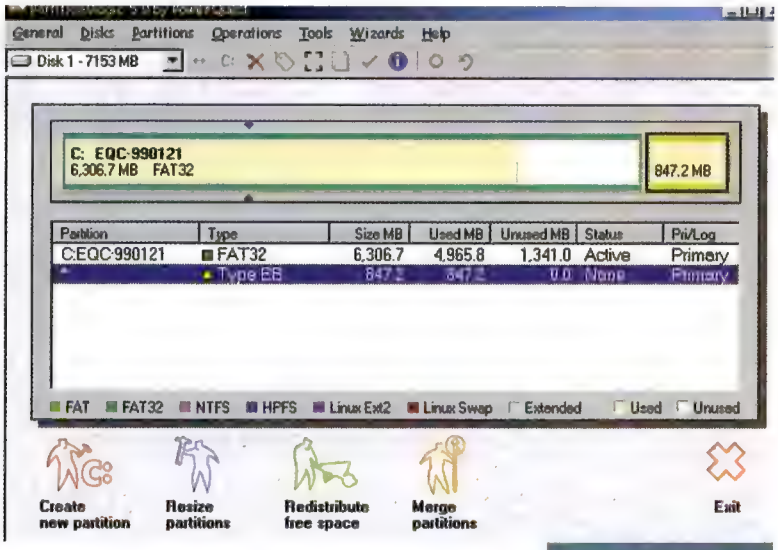
Anyway, this leads nicely to the news that RealNames has teamed up with MP3.com to route enquiries for MP3 to MP3.com. If you follow the entry with a music genre such as jazz, an artist's name or song title it will do its best to find a relevant section. It's just one more indication that MP3, currently at least, seems to be the world's favourite digital music format.

For more info about RealNames, check out www.realnames.com. Or just type 'realnames' into your browser.

Partition magic

From time to time, readers ask how they can customise their system for different applications, say, to use one collection of settings of music, one for wordprocessing, one for the internet, and so on. Increasingly, too, we are being asked about running alternative operating systems, such as Windows NT, the up-coming Windows 2000, Linux and BeOS.

There aren't any magic buttons to push that will enable you to do this, but there is a piece of software that can help, called Partition Magic. One of its functions, as its name suggests, is to partition or divide a hard drive into several sections. Different OSs can be installed on different partitions and a Boot Manager lets you select the OS you require at start-up. Operation is pretty straightforward and the program has a number of helpful wizards. As well as creating partitions, you can resize existing ones, merge partitions, convert between FAT and FAT32 and convert between primary and logical partitions.


General Disks Partitions Operations Tools Wizards Help
Disk 1 - 7153 MB
C: EQC-990121
6,306.7 MB FAT32
847.2 MB
Partition Type Size MB Used MB Unused MB Status Pri/Log
C:EQC-990121 FAT32 6,306.7 4,965.8 1,341.0 Active Primary
Type EB 847.2 847.2 0.0 None Primary
FAT FAT32 NTFS HPFS Linux Ext2 Linux Swap Extended Used Unused
Create new partition
Resize partitions
Redistribute free space
Merge partitions
Exit

Partition Magic's main screen provides information about the disk

It's worth noting the difference between the FATs. FAT (File Allocation Table) is used by the system to store information about the files on the hard disk. FAT is used by DOS, Windows 3.1, Windows 95 and can be accessed by Windows NT. FAT32 is an extended format which uses 32-bit entries rather than FAT's 16-bit entries enabling it to support larger partitions and hard disk sizes – right up to 2 Terrabytes! To access FAT32, you need Windows 95 OSR2 (version 4.00.950B – check the System Control Panel) or later.

Partition Magic has another clever function: it can change the size of the clusters. A cluster is the smallest part of a drive that can be used to store data. Normally, a PC drive will be formatted with 4K clusters, so if you saved a 1K file, 3K will be wasted. If the cluster size was 16K then a whopping 15K goes AWOL. If you save lots of small files, small clusters will be more economical; saving small files to a disk with large clusters wastes much space. Digital audio files tend to be large, so large clusters are fine.

There is, however, a theory that small clusters tend to slow down a drive's data transfer rate, the reasoning being that it has to move the drive head more often if it's saving into smaller clusters. Anyway, Partition Magic will let you try it for yourself if you want to squeeze the last ounce of performance out of your hard disk.

The pack includes BootMagic, which runs each time you start the PC, and which lets you select the partition and OS you want. There's also a useful utility called MagicMover, which automatically moves programs. You should back up data before messing with partitions and clusters, though the program worked well without messing up any of the disks or data.

The program has only just been upgraded to version 5 and can now merge FAT and FAT32 partitions, more options for converting NTFS to FAT and FAT32, an improved user interface and wizards. It also supports drives larger than 20Gb and the program runs native under Windows. If you want to run multiple operating systems on the one PC, Partition Magic is neat, simple and extremely workable. It's novice-friendly, too.

Partition Magic is £59. More from PowerQuest on 0118 975 5955

Hear no evil

part one

Setting up your monitors correctly is critical in getting an accurate sound. In this new series, we team up with monitoring experts Genelec to guide you through the do's and don'ts of speaker positioning

words **Chris Kempster**

Ten years ago it wasn't uncommon for many musicians to economise in the area of monitoring by making do with hi-fi speakers in their home studios. The advantage, of course, was that the money they didn't spend on studio monitors could be spent on more 'exotic' studio equipment, such as synths, samplers or effects. As we all know now, this was a false economy, as no matter how much equipment you owned, without a proper set of monitors to mix on, the end result would always be suspect since most hi-fi speakers aren't suitable for studio use. Luckily, in the early 90s we saw a whole selection of affordable, nearfield monitors come onto the market, and at last there was no excuse for *any* studio to have a set of monitors suitable for recording and mixing.

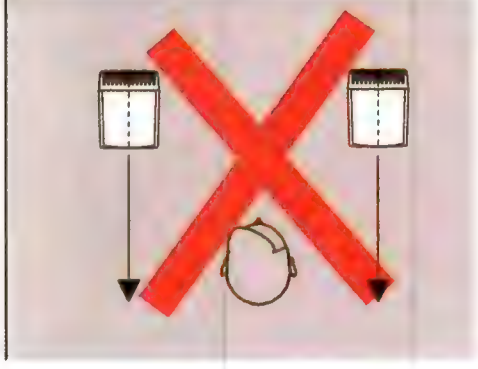
Nowadays you're unlikely to go into the humblest of bedroom studios and not find a set of 'proper' monitors, and it seems that the message has finally got through that if you're serious about producing music then you need a set of speakers suitable for the task. Now in an ideal world, we could end this article now, safe in the knowledge that with a good set of speakers, all you readers are going to get a first class sound, and first rate results from your monitoring system. But life isn't that simple (is it ever?), and it's a fair bet that a large majority of monitoring systems are set up incorrectly, thereby reducing the accuracy and effectiveness of the system. It's not even just bedroom and project studios where this is a problem, either. Unbelievably, some 'professional' studios that have spent tens of thousands of pounds on acoustics and monitoring systems have set their system up incorrectly, resulting in inaccurate or 'bad-sounding' monitoring. What this feature aims to do is pinpoint the critical factors when setting up your monitoring system, and give you a checklist that'll help you get an accurate-sounding system.

Fundamentals

The fundamental idea to understand about monitors is that they cannot be thought of in isolation. The room you place them in is, in effect, an extension of the speaker, and profoundly effects the sound you will hear. The size of the room, its shape, and what the surfaces are made from are all factors that can make the same speaker sound completely different in two different rooms. And it doesn't stop with the room, either. Objects in the room, such as your gear, furniture and instruments also colour the sound reaching your ears. Factors such as the size of your mixer, and how it's positioned, where your outboard racks are situated and if you have a computer monitor by your mixer, will all effect the sound coming out of your speakers.

If this all sounds a bit anoraky, bear with me for a second... just think of the benefits of taking a little time out to think about your monitoring

Speaker angle and distance



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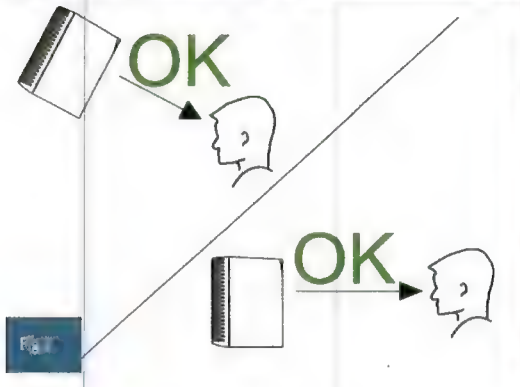
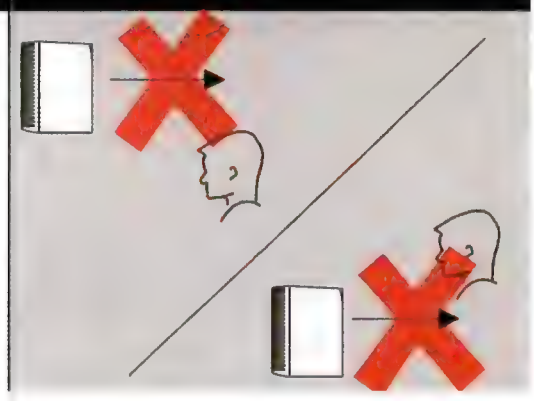
Vertical angle





system. For starters, if you've spent a lot of money on speakers then you want them to perform at their optimum, right? Getting your system right also costs virtually nothing, yet the improvement in your recordings could be very significant. It's only a one-off job too, so once you've set things up correctly, you can pretty much forget about it. Convinced? Then let's continue...

1. Vertical/horizontal axis

Everyone who's ever bought a stereo system knows this one, don't they, but you'd be surprised at how many people still neglect the basics; that is, the speakers should be pointing directly at the listener's head. The ideal situation is as in Fig.1, where there's an angle of 60 degrees between the speakers, forming a triangle with the head of the listener. Distance for a nearfield monitor should be between about 0.7m and 2m; any more than this and it couldn't really be considered to be in the nearfield anymore.

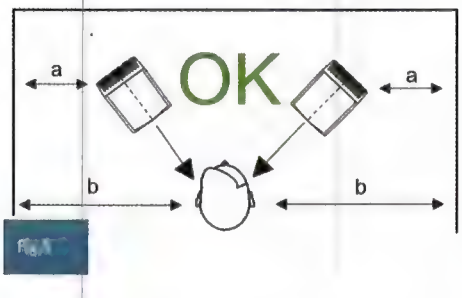
The height of the speakers can be above that of the listener's head (see Fig.2), provided they are angled down, again towards the listener's head. It's important to fix the position that you will be in during mixing, so that your monitoring set-up is optimised for this. Obviously during tracking, pre-production and programming you'll be moving around the studio, but remember that unless you're sitting in the 'sweet spot' then you won't be getting a truly accurate representation of the sound.

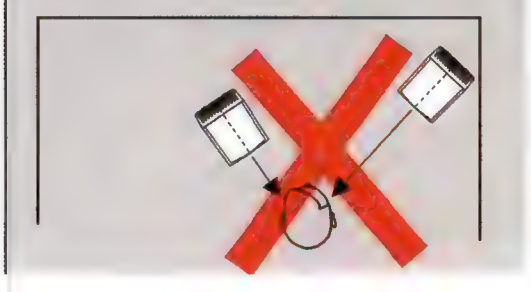
2. Symmetry of room and installation

For a true representation of the stereo spectrum, your room needs to be symmetrical both physically and acoustically. For example, if the left wall of your room is made of (or covered with) a more absorbent material than the right wall, you're going to get less reflected sound at the listening position, thereby altering the stereo image. The distance between wall and each speaker should be identical too (see Fig.3). A useful fact to remember is that reflected sound that reaches your ear within 35ms of the direct sound is interpreted by your brain as actually part of the original source. Any longer than that, and your brain can start to separate the reflected sound from the direct sound and gradually perceives it as echoes (distinct echoes by 100ms). This is a basic theory which has to be taken into account when designing and setting up rooms (see *Echoes, Early Reflections, and Reverberation*).

As well as it being desirable for the rooms physical and acoustic properties to be symmetrical, this also goes for objects in the room i.e. your equipment, any furniture, racks, keyboards and stands and so on. If you have a whacking big rack to the right of your mixing desk and nothing on the other side, then your stereo image is going to be disrupted due to reflected sound off the rack. Any objects in the room will effect what you hear – this is unavoidable (short of not having any gear!) – but if these objects are arranged symmetrically then at least you will be hearing the same thing on both sides. So if you do have a

Symmetry of room installation





Echos, early reflections and reverberation

When people talk about reverb, early reflections and echoes, they seem like interchangeable terms, but actually this is not quite true. They are all phenomena that are caused by the reflection of sound in a room, but they are also subtly different. The brain interprets a reflected sound that it hears within 35ms of the direct sound as part of the sound itself. So you won't hear sound that is reflected off your mixer as a reflection in its own right, only as part of the direct sound. These are early reflections. Reflections that reaches the ear more than 35ms after the direct sound will be start to be perceived as echoes – i.e. sound that is not part of the direct sound. Those that come after 100ms will be perceived as distinct echoes.

Reverberation, on the other hand, is the diffusion of the sound in the room once the sound source stops radiating into the room. For example, if you play a single snare drum sound through your monitors, the direct sound will reach your ears first, followed by the early reflections (both being recognised by your brain as one sound). You will then hear the reverberation of the sound around the room as the sound is repeatedly reflected off the room surfaces. The reason it dies away, and doesn't continue bouncing around forever is because every surface the sound hits, it absorbs some of its energy. What isn't absorbed is reflected back, but over a period of time this dwindles to nothing. The 'reverberation time' of a room is how long it takes for the diffused sound to fall to 60dB of the level of the source sound, which to you and me is about 1,000,000th of the original sound level. So now you know!

Speaker design

There have been many 'innovations' in speaker design over the years, but the basic mechanic of producing sound remains the same - that is, a diaphragm moves forwards and backwards, creating sound waves. It sounds simple enough, but over the years there has been an amazing amount of effort, money and research put in by speaker manufacturers into tinkering with the basic principles of speaker design to achieve a certain result. This depends, of course, on the application that the speaker is intended for; for example, the brief for the designer of a speaker for your living room might be that it must sound easy on th ears, whereas the main objective of a design for a PA speaker might be the capability for handling high SPLs.

For studio monitors, there are different objectives again. Whatever the size of the speaker or the room it is going into, studio monitors are expected to have a flat response throughout the audible frequency range. On nearfields, there will inevitably be a sharp bass roll-off, but with big wall-mounted systems, the bottom end might go down to 30Hz or lower.

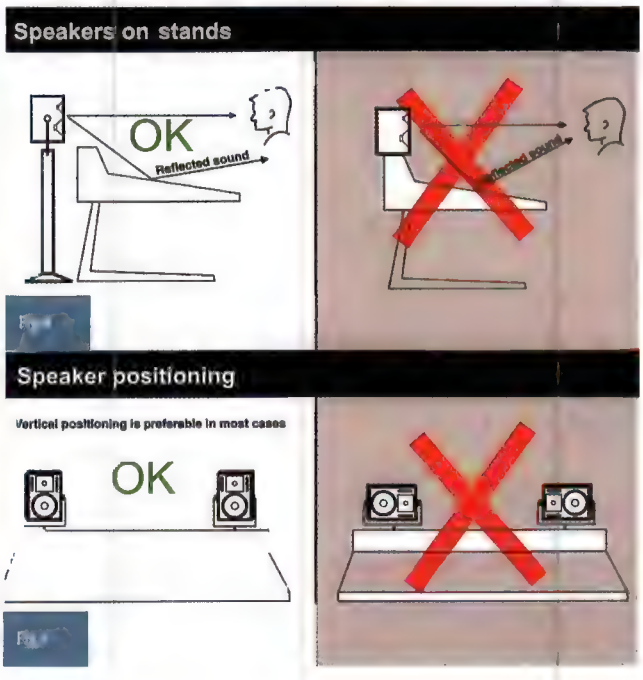
Accuracy isn't the only consideration for the studio monitor though. In a large room, especially one that's quite dead, high SPLs will be required to monitor at a loud enough level. This means a powerful amplification system, and a speaker system sensitive enough, and able to handle a lot of power. Even at high SPLs, the sound from a studio monitoring system must produce very little distortion, and much effort has gone into producing systems that can handle very high SPLs, whilst also producing very little in the way of distortion.

Yet another issue in today's recording scene is that of bass. Much of today's music depends on bass much more than music has in the past, and so producers of this music demand a monitoring system that can handle serious bass. This means either big full-range monitors, or nearfields used in conjunction with a sub-woofer.

To achieve these objectives above, manufacturers have used many different components, materials and designs, and permutations of all of these. To go into detail is beyond the scope of this article, but we should say a little about the two basic approaches to monitoring – that is, using a passive speaker/amp combination, or using active monitors. Using a separate amplifier and speakers is familiar to everyone who's ever owned a hi-fi and this makes it a natural choice for the studio too. However, in recent years there's been quite a significant move away from this set-up, in favour of active monitors i.e. speakers that have their own individual amplifiers built into the cabinet. You can now buy from a wide range of active nearfields (such as Genelec's 1029a) as well as the huge wall-mounted monsters you can see in the top studios in the world.

And there are compelling reasons why many people are opting for actives these days. Firstly, the amplifier is chosen by the manufacturer to perfectly match the driver/or drivers, thereby getting maximum efficiency and performance from the driver. For example, in a three-way active design, there would be three amplifiers in the cabinet, each powering its own driver (one for bass, one for mids and one for treble). A higher degree of performance should be expected from such a system since each amp is chosen specifically to match each driver.

Active designs are very practical too, since all you need to connect them up is a power lead and an audio lead from your mixer. Compare that to the separate power amps, speaker leads, crossovers and power leads of a passive system and you can see that there's more potential for signal degradation, interference, and general studio clutter. As ever with any critical equipment, it's important to try equipment out for yourselves – so check out as many passive and active systems as you can and then make your own choice.

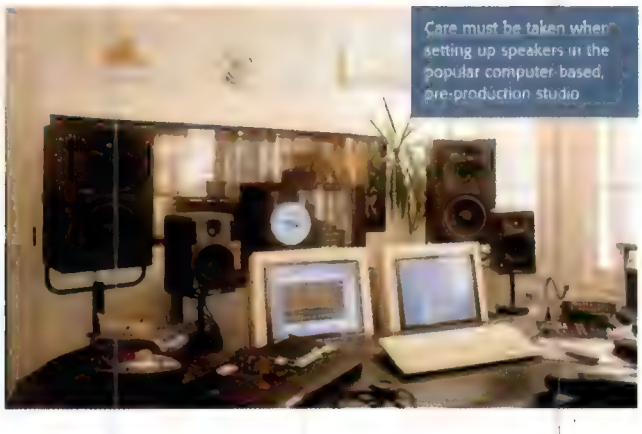


rack to the right and in front of the console, try and have an identical one in the same position on the other side. For the rest of the room, try and arrange your equipment in as symmetrical a fashion as possible. With a bit of planning this is fairly easy to achieve.

3. Mount nearfields on stands

Walk into many pro studios and you'll find a pair of nearfields (or several) lined up on the meterbridge of the console. This is all very convenient, and from the almost universal use of the mixer as an ad hoc NF stand you'd think that's what meterbridges were designed for. This couldn't be further from the truth, however, since in the listening position you'll be hearing reflected sound coming off the front panel of the console as well as the direct sound from the monitors, thereby giving an inaccurate sound. What you really want is to hear direct sound only, and you can achieve this by mounting the monitors on stands just behind the console, which results in the reflected sound not reaching the listener (Fig.4). Remember it is also generally better to mount nearfields vertically (Fig.5), though some speakers (NS10s for example) are designed to be mounted horizontally.

Next month we look at subwoofer positioning, bass frequencies and basic room designs. All pictures and diagrams courtesy of GENELEC OY.



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Time to turn 'Pro'

The launch of Digi 001 has finally brought the power of Pro Tools to the project studio. For painless results, follow our quick guide to getting through your first session...

words **Seb Pecchia**

Why should you buy a 001 system over and above its competitors? This is a fair question, but the reply would be 'What competitors'? Call me biased by all means, because Pro Tools has been my right hand for a long time, but at the moment this software is as good as it gets for the small amount of dosh you'll have to part with.

With the 001 package, you basically get a complete MIDI/audio production environment in a box, designed for the home/project studio user for the creation of sonic masterpieces. Real-time mixing from the Pro Tools LE software (which is basically Pro Tools 5 but missing a few bits and bobs) 24 tracks of audio playback, MIDI recording, editing and sequencing in the same window as your audio, and dual-purpose editing features that work with MIDI as they do with audio... Juice!

Not only that, you get the neat set of Digirack plug-ins, and Real Time Audio Suite (RTAS) plug-ins are also becoming available. Are you sold yet? If not, then it's worth mentioning that you will also get a very cool-looking breakout box (or I/O interface) that gives up to 18 discrete inputs and outputs: analogue as well as digital ADAT optical, S/PDIF and MIDI I/O. Added to this, you get two analogue inputs on the front that are also high quality preamps for direct recording, and it's all 24-bit!

Get it on

Well, once hooked up (see the *Installation* box on page 93), this really is the easiest set of recording tools to use. First, you need to open a new session. Simply open the Pro Tools LE icon that's now on your hard disk. You'll be able to designate your HD and whether or not you want this to be a 24-bit or 16-bit session.

Once that's done, you will be confronted with the main Edit window. Basically it's a white screen, around the edge of which there are tool buttons, editing function keys and a load more besides. At the top of the main screen there is a time line showing time (of course), tempo meter and markers, all of which will be of use at some stage.

Fig 1. To get your tracks up and ready to record, select Audio Track from Pro Tools LE's track selection menu. Sixteen is an adequate number of tracks to start off with

First, however, you'll want to get some tracks up, labelled and ready to record. To do this, either go to the File menu and select New Tracks or use the short key command [Command-Shift-N]. This brings up the track selection menu (see fig. 1). The default is Audio Track, but by clicking on the word you get the choice of selecting MIDI, Auxiliary Mono/Stereo or Master-Track Mono/Stereo, allowing all the combinations that you'll need to be chosen fast. Select Audio Tracks and to start with whack up 16. Remember, you can have up to 24 and no more, but 16 is a good starting point, just from a clutter point of view.

Once you have some tracks up, you will see that a grid has appeared on the edit window. This is part of the Grid to Regions and Markers mode, which we'll look at later. Now all we need to do is assign the I/O of the channels. Actually, the default works very well – each channel has its input and output set up in rank order (e.g. channel 1 = input 1 and output 1, and so on). So guess what? You are now ready to record audio.

Ready to record

The first time you set up a session is really as complex as it gets, depending on how well you know the software, but as this is a starting point, simple is best. It might be best to use a guitar or synth to start some experimental recording passes, just because hooking them up to your 001 is simple and the results can be built on.

Simply plug the jack from the instrument lead straight into the one of the strange dual-purpose socket on the breakout box, turn the volume control up on the instrument, and strum. You won't hear anything until you click on the first Record Enable button (these can be seen in the Channel Menus down the left side of the Edit window). The button will light up red; strum again and you'll see signal appearing in the onscreen metering.

Adjust the level on the front so no clipping is occurring. At this point it's worth mentioning that you can trust what you see on that screen – it is very accurate. If a clip light shows, you're printing sound too hot, so back off a little.

If you wish, plug some headphones into the front of the breakout box and have a practice. Then all you need to do is hit [Apple-Spacebar] and you're in record. As you play, you will notice the waveform appear during the pass. Each track will be a different colour, so all will be clear during your session.

Plug it in

Having made a few passes, you can then start to think about adjusting some of the playback levels and adding some effects. With 001 you get a bundle of plug-ins called the Digirack (see fig. 2).

Take Digi 001 out of that box and get ready to create some sonic masterpieces...

These are exactly the same as you get with the megabucks TDM system: compression, gates, delays and EQs are all there.

The fastest way to access them is via the Mix window. Simply hold down [Apple and +] to switch screens, and you'll see all 16 channels laid out in order. Again, you can control everything you need in this window, apart from actual audio editing.

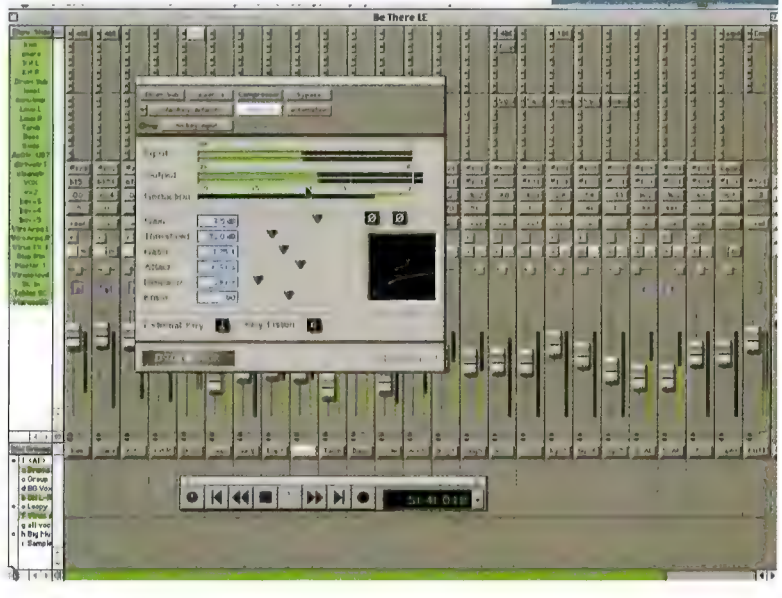
You get into the plug-in world by clicking on the small square buttons at the top of each channel. A drop-down menu will appear, showing all the plug-ins you'll need to start with. Select one – for example, the compressor – and it will appear onscreen in front of you. Hit playback on the transport bar (space bar) and adjust the compression on that channel as required. All other plug-ins work in this same way, apart from AudioSuite ones.

What a group

Once you have made the required adjustments, you can flick back into the Edit window and perhaps group some tracks off so that they can be handled more easily. For example, you may have adjusted all the levels on a drum kit and may now wish to top and tail the audio to get rid of the drummer blowing his nose at the top of the track (see fig. 3).

All you need do is highlight each drum track by holding down Shift and then click on the relevant tracks. On the left of the window you will see a menu box called Group. Click on it and select New Group. Now you will be asked to name it, so call it 'Drums'. in the Group menu you will now see the group 'Drums' highlighted, and every edit that you make »

Fig 2. The Digirack plug-ins are exactly the same as you'd get with a full-blown TDM Pro Tools set-up



001 installation tips

Installation of computer software has, without doubt, become as simple as the click of a button. However, some of you may still be a little bothered by the idea of opening your computer and pulling bits in and out of it. And rightly so, as this is an operation that should be done with the utmost care and attention.

The 001 package comes with a software CD and a card that goes in your Mac. We used a Blue and White 450 MHz G3 to run this system, which makes life a little more straightforward because it is so easy to get into the inner sanctum of the machine.

First up, turn the power off. This prevents everything from exploding before all the fun has started. Inside the Mac there are the usual PCI slots, and it's into one of these that you're gonna whack the very neat, half-sized 001 card. If you don't have any free slots available, then you'll have to buy an expansion board or take something out.

While handling the card, hang on to another metal part of the Mac so as to eliminate the evil static problem. Slot your card in (making sure it has gone in all the way), pop the screw in and you're done.

Next, hook up the cables. First, the interface cable between your Mac and the 001 I/O box, next, MIDI cables in and out, next, well, if you want to use the lightpipe optical ADAT then hook up the single cable to connect that. Done? Congratulations – apart from instruments, you have successfully installed the hardware.

The software installation is just as easy. Stick the CD-ROM in and click 'Install' on the screen. You'll be asked to authorize your software. Click 'OK' and you'll be asked to enter your challenge response code, which should come with your package. If not, the ever-useful Digidesign crew (Tel: 01753 653322) will be happy to help.

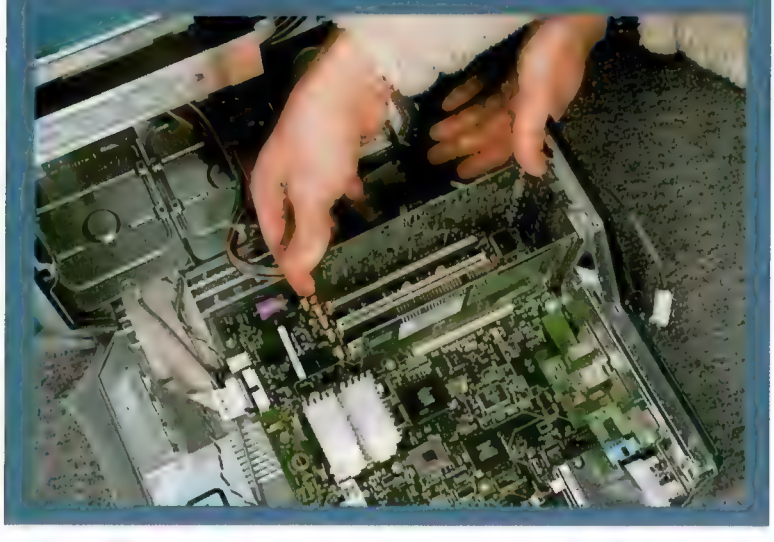


Fig 4: You can draw in volume, pan and mute automation from the Channel menu in the Edit window, and add brilliant pre-designed fade curves for quick and easy results

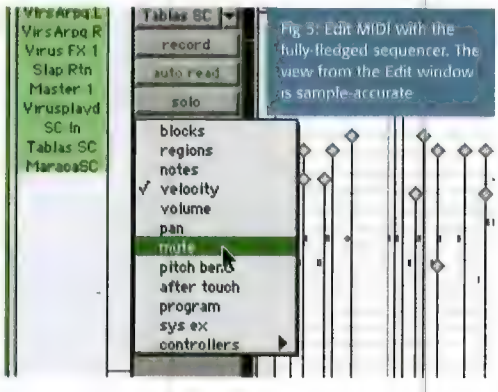


Fig 5: Edit MIDI with the fully-fledged sequencer. The view from the Edit window is sample-accurate

to each drum track will now happen on all the drum tracks. If you wish to work just on one individual track again without affecting any of the others, then simply un-highlight the 'Drum' group in the Group menu. How easy is that?

Automatic automated

Now that we have had a look at the basic ideas of track allocation and grouping, we can add some automation. This can be achieved in either the Edit window or the Mix window.

In the Mix window, there are automation controls on each channel. The simplest way to add some fader automation is to just click on the Read button and then select Write from the drop-down menu. The button will now flash 'Write' at you. Press play and control the fader with the mouse – each move will be recorded. It's not practical, but it works, and gives an entry-level idea of what can be done, especially if you don't own a mixing desk.

The other method is to draw automation in. If you are in the Edit window, you can select volume, pan and mute automation from the Channel menu on the left of the screen and simply draw the moves in (see fig. 4). Fades are best created by using the [Apple-F] command, which allows you to quickly add pre-designed Fade curves. These are brilliant and take just seconds to create.

Time for MIDI

MIDI in Pro Tools LE is all contained in the same window as your audio; this is great and can actually lead the user to forget that he/she is working in a MIDI environment. The view you get of MIDI in the Edit window is sample-accurate, allowing the MIDI to be edited, arranged and mixed in the same way as the audio, using pan, volume, and group automation (see fig. 5). It actually works very smoothly, allowing you to hear edits as you perform them. Selection of a MIDI track is the same as for audio tracks, and recording and editing are the same, so once you have a grasp of the very basics, such as track selection and grouping, the basic way of achieving your goal is the same.

This article is really intended to give the new user a very basic idea of how to record audio and MIDI using Digi 001. This package has incredible power – far beyond these introductory tips – some of which we will all use, some of which most may never be bothered with. Anyway, it sounds so good, you'd be forgiven if you stuck to the basics.

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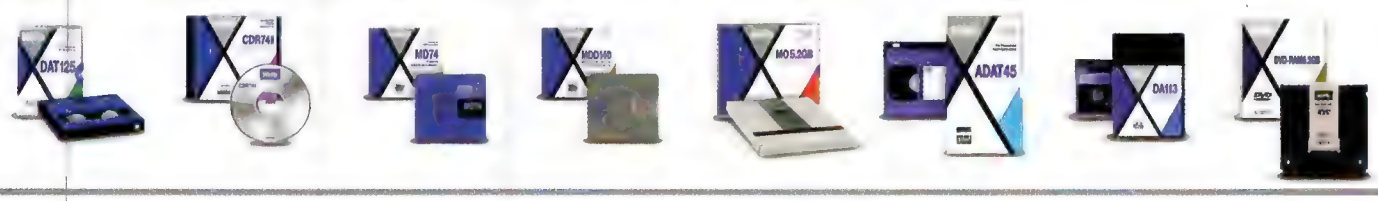


help file

Problems in the studio? Ghosts in your machines? Contact the *Help File*, where our team of audio experts try to to solve your technical torments

glossary

Amplitude
The 'depth, or excursion of a vibration or wave. In audio waves, it translates to loudness

Auxiliary
A sub-mix output from a mixer, normally used to send a channel mix to an effects processor or to monitors. Some mixers have dedicated auxiliary returns that are mixed into the main stereo buss.

CD-R
Recordable CD. Achieved by 'burning' data into a special coating on the CD. As an alternative, CDR/W can be erased, as well as written.

Compression
A process that uses a user set threshold level to activate a gradual attenuation on the audio. In this way, high levels are reduced and, subjectively, low levels are increased – hence 'compression'.

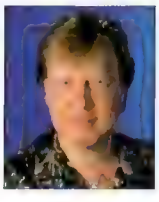
Condenser
A type of microphone that uses the reaction of a diaphragm to change a capacitance. Condenser microphones need an applied voltage to work, some with battery, some with an external 'phantom' power supply

Controller
Name for a particular MIDI message type used for adjusting parameters such as volume, pitch bend, and so on. A number of controller numbers are reserved for specified parameters, according to official MIDI specs, but the rest can be used for product or application-specific control

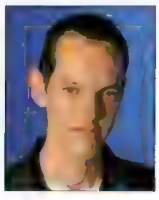
the masterminds

this month's *Help File* team

NAME: Adam Crute
OCCUPATION: studio manager
CHOSEN SUBJECTS: music software and hardware, internet, Cousin It



NAME: Ian Waugh
OCCUPATION: technical writer
CHOSEN SUBJECTS: music software and hardware, internet, Lurch



NAME: Oz Owen
OCCUPATION: *TM* reviews editor
CHOSEN SUBJECTS: Logic Audio, MIDI, processors, Uncle Fester

Q I'm having no success at all in getting my Korg N5 synthesizer to generate sounds connected to my computer using Cubase 3.7. I'm using a Soundblaster Live! soundcard and have a cable that plugs into my games port. To prove that the cable and computer are ok, I can successfully get my Zoom RhythmTrak 234 to play back drum patterns created in Cubase. This proves to me that the computer is generating MIDI out.

I can also successfully generate sounds on my Soundblaster Live! card via MIDI using the Korg. In fact while I play keys on the Korg, I can see from my computer screen the corresponding keys being displayed in Cubase.

I have tried everything in my Korg manual but to no avail. Any advice? Help! it's driving me mad!

Alan Weston, Edinburgh

Korg N5: don't use it with a Soundblaster card unless you have an opto-isolated MIDI-PC cable

A The Soundblaster range of soundcards puts out MIDI signals that aren't quite powerful enough to trigger the N5. What you need to do is ring Et Cetera (01706 228039) and ask them about 'opto-isolated' PC-MIDI cables, which should set you back no more than £19. The opto-isolator (for anyone who cares) is something that prevents ground loops and subsequent data errors; however, a lot of cards these days are not opto-isolated within the actual card itself, but rely on a small circuit board within the connector cable to provide the necessary opto-isolation. Unfortunately, not all cables provide this, and as you're discovering, this can affect MIDI communication, with irritating consequences.

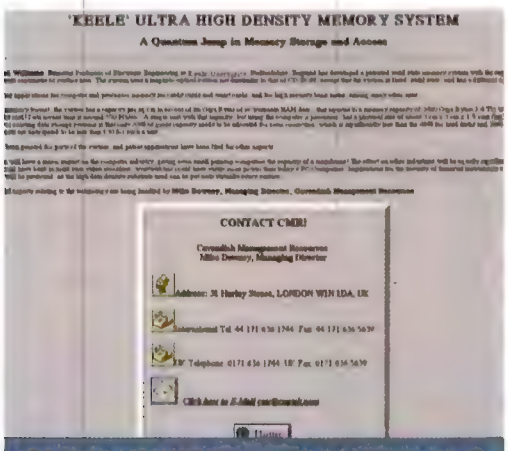
Oz Owen

Q In *The Mix* issue 70 on page 83, I read the article *Beam me up, Ted*. I wonder if Ted Williams' 3.4Tb-memory device is commercially available. If so, where can I buy it and how much does it cost?

Michael Rugamer, by email

A No such luck! It's a prototype and whether or not it will ever be commercially available depends on potential developers – I can't see the disk drive manufacturers being too keen on the idea. However, the commercial aspects of the technology are being handled by Cavendish Management Resources. You can read more about it at: www.keele.ac.uk/research/cmrkeele.htm.

Ian Waugh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Cavendish Management Resources
Mike Dewsnip, Managing Director

You can find out all about Ted Williams' 3.41b memory device at the Cavendish Management Resources website

I have just started getting involved with recording. I know that some of the basic gear I need is a mixing console, monitors, mics, CD writer, sequencing software and so on. My problem is how to actually connect all the gear so that everything works properly. I've also heard about different gear, like the Roland VS880Ex, that can make things more simple for people that don't know much about recording. Is this true? And why is it more simple? Are you going to have any articles for beginners and step-by-step help for home recording?
Georgina Strati, by email

Hmm. Georgina, Georgina. What you're saying here, in effect, is that you don't know much about the technical side of setting up a studio, and could we fill you in on everything to do with choosing a set-up, buying the right gear, hooking it all together, making it work and getting decent results from the whole thing – perhaps a few tips on soft furnishings for your new recording facility wouldn't go amiss either?

Well, if you want an easy life, or easier, should I say, then I would suggest you save yourself a lot of potential headaches and go for the studio-in-a-box option, or Roland VS880EX, but there are others available as well, such as the new Korg D16, reviewed in this very issue. These will usually incorporate a mixer, hard disk recording, effects, auxilliaries, EQ, dynamics processing, and in certain cases, the ability to burn your tracks directly to CD. All you really need on top of that is a pair of speakers, an amp, a decent microphone or two, and a CD writer. This should pose no real problems as far as connections go, and then if you decide you want to expand your set-up, then the multi-track recorder will act as a good central hub. This should get you up and running to the point where you can start experimenting with recording techniques.
Oz Owen

I'm not sure how to set up MIDI on my computer. I have Windows 95 and I have just installed the Logic Audio Platinum 3.5 demo onto my computer, and I'm using it with a Yamaha PSR-310 keyboard. The MIDI is plugged into the joystick port as that's the only available port, but I'm not sure what's next. Could you help please?
Alex, by email

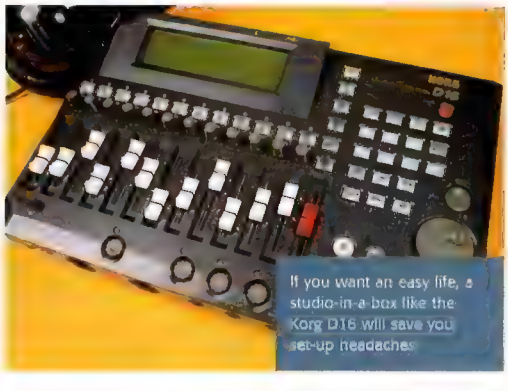
You don't say what soundcard you have, but with most, an adapter plugs into the joystick port and terminates in a MIDI In and a MIDI Out socket or plug. Make sure the MIDI Out from the Yamaha is connected to the adapter's MIDI In and, if you want to play the sounds on the PSR, connect its MIDI In to the adapter's MIDI Out.

In Logic, select Open Environment from the Windows menu. The default set-up will probably show a GM Device in the window consisting of a 4 x 4 grid containing the numbers 1-16. These are MIDI channels. Highlight the whole icon and, on the left, click on the entry between Cha and Prg. This will probably be set to your soundcard's built-in MIDI sounds or its MIDI output but in case it hasn't, select the required output from the pop-up list.

Double-click on any of the numbered squares and up pops another window listing the sounds in the GM (General MIDI) sound set. Select a sound by clicking on it and assign suitable sounds to each of the 16 MIDI channels. This does assume, of course, that your card is GM-compatible. The PSR-310 (it's a bit long in the tooth now, Alex) isn't. All this Name dialogue window does is send a Program Change number and you can set it up with the names of the sounds in the PSR is you wish.

However, the PSR is multi-timbral and if you put it into Multi mode it will be able to play different sounds on different MIDI channels simultaneously. The best way to find your way around is to load and play a MIDI file and experiment with the settings as you do so.
Ian Waugh

I currently mix vinyl on my turntables and have been doing so for the last 5-6 years. I am now very keen to get into production and have some questions with regard to the type of hardware and software I need. I have got a fairly new and fast PC with a large amount of hard disk space, and a Yamaha DS-XG soundcard that came installed with the machine. I would like to take samples from my vinyl and CDs and mix and chop them up on my PC. I would also like to compose some music. Could you recommend a decent but inexpensive keyboard and software package? What else would I need in order to link all this together? Would a »


If you want an easy life, a studio-in-a-box like the Korg D16 will save you set-up headaches

glossary

Control surface
The whole or part of a digital unit that hosts controllers, such as faders, pads, knobs, sliders and pots. No audio passes through it, as opposed to many analogue designs, where the controls are audio components

Duplex
[illegible] to play and record audio at the same time. 'Full duplex' means there is no loss. For example, some soundcards operate with reduced sample rate on the output in duplex mode

Dynamic range
Ratio of highest possible signal level (peak) to the noise floor. Expressed in decibels (dB)

Dynamic FX
Any 'effect' that changes the dynamics (volume, loudness) of a signal. The most common dynamic FX include compression, expansion, limiting and envelope filtering.

Effects
Anything – software or hardware – that alters the nature of a signal, such as a reverb unit, pitch-shifter, delay, flanger, phaser, chorus or vocoder.

EQ
Equalisation. Frequency (pitch) selective filtering of audio in order to boost or cut levels inside the specified frequency range (bandwidth)

GM Module
A multi-timbral sound module (player) that conforms to the GM (General MIDI) standard. GM sets out a standard list of tones, program numbers, and controller numbers, which means that any GM-compatible MIDI file will play on any GM-compatible module

Handshake
Two-way communication between devices, which allows two devices to react to one another's status.

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mixer be neccessary? Are software applications able to take the samples or would I need to purchase a sampler as well?

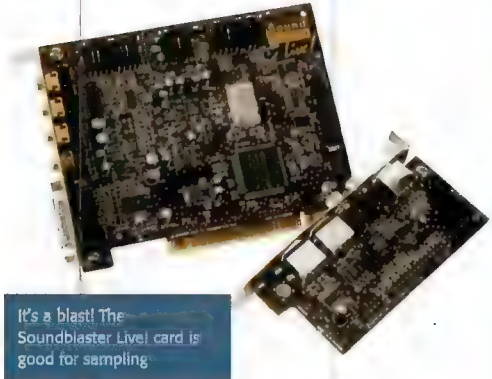
Tim Stockford, by email

A What you're asking is essentially a four-part question. So, firstly to the issue of a 'decent but inexpensive keyboard and software package.' For economy, your best bet will be a Quickshot MIDI Composer package, comprising a 4-octave keyboard and an early version of the Cakewalk sequencing package (an upgrade path is available). The recommended price is £119, but shop around for the best deal. A power/MIDI cable is provided, but this only features MIDI from the keyboard to the PC, so if you want to control MIDI gear from the computer, you'll need a PC/MIDI interface cable with MIDI in and out. These can be picked up from any music shop and should cost no more than £15. This means the keyboard will no longer take power from the PC, so a power supply will be needed for the keyboard. Again, this can be picked up from any good music shop.

Moving on, a mixer is a good idea, basically to give yourself a bit more flexibility, and many can be picked up for around £100-200 these days, but remember the golden rule – you can never, ever have enough inputs. Even if you think you have enough for your gear, remember extra ones can be useful for effects returns, for doubling up channels, for future expansion and all sorts of crazy mixing-desk-style-capers.

As far as a sampler goes, that depends on a few things. Firstly, if you're confident about troubleshooting on your PC, then a software sampler will save you money, but is not as straightforward as a hardware sampler. The DS-XG soundcard you mention refers more to the chip used than the actual card, and given that it's a chip used by many third-party manufacturers, your soundcard could be a bit on the basic side, so you may have to get back in touch with the company who supplied the PC to see what the card is actually called. If you want to upgrade to a good card for sampling, a Soundblaster Live! Platinum should do the trick for £170, or if you've a bit of cash to spare, how about the Digidesign Samplecell card for £1,009. If that all sounds a bit of a technological nightmare for you, a secondhand Akai or Emu sampler could be yours for around £500, so start checking out the free ads at the back of *The Mix* for some bargain hardware.

Oz Owen



It's a blast! The Soundblaster Live! card is good for sampling

glossary

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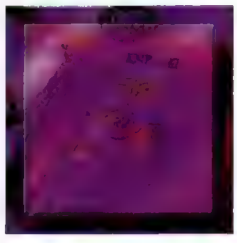


a&r dept

Your demos rated or slated by *The Mix* and our discerning record industry pals. Meet this month's team...

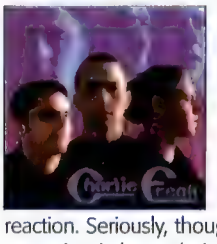
Simon Aldridge A&R, Columbia Records

Luke Cunningham Label Manager, Freedom 4

Sam Winwood A&R, Sony S2

Sil Willcox MD, Crusin' Records

CHARLIE FREAK
DEMO



TM: A warm front has unexpectedly arrived in the form of Charlie Freak. There's a kind of Lightning Seeds ethic at work here – not in the style but more in intent and orchestration. Catchy hooks abound. 'Up And Away' will be lodged in your grey matter after one play. Whether this is A Good Thing is unclear; it's starting to annoy me, but at least it has got a reaction. Seriously, though, the crew here are musically clever (if a bit precocious), know their songwriting roots well (a strange concoction of hard rock and pop), and are pretty nifty with their production prowess, too. A distinctive style is important, of course, and Charlie Freak score a few extra points here – three tracks which, although varied, show cohesion. The trio exude confidence and seem to make no bones about their out-and-out pop style.

Sam: A bit of a mish-mash.

Sil: I've heard it too often before. Some of it's quite strong, but not strong enough.

Luke: Okay, if you like that kind of thing. Which I don't.

Simon: Fairly decent pop, but it needs a sharper edge.

More from: Ben Stone Tel: 01639 703612

KRYSTAL
DEMO

TM: Sample CDs are big bucks and Krystal have absorbed the mentality well. Some are a little obvious, if hard to pinpoint. But given Krystal's limited kit (SoundBlaster Live card and Cakewalk), there's little scope for production prowess. Add the fact that main man Louis is just 15 years old and you'll begin to realise that, given more gear, he could be on to a winner. It's always difficult to ascertain commercial viability when tracks are so blatantly put together. However, Krystal have an obvious knack for production, and the attitude to match: '"Kaos Kru' (Krystal's new moniker) are going to get musicians and vocalists to join us to make a new sub-genre of drum 'n' bass." A bold claim, but isn't that half the battle? Anyway, production-wise, Krystal are adept at separating the various elements of their material in the mix and coming out with a coherent blend of trancey drum'n'bass. Derivative? Yes, but true potential lies therein. Live from our *In the Bin* competition at the NMS, Stephan Israël from TC Electronic said:

Stephan: Considering he's using a limited soundcard, this really isn't bad. If he had more gear, Krystal could make some serious impact.

More from: Louis Odunoye Tel: 0181 777 7794

demo of the month

STILL LIFE – DEMO

TM: We often give people a bit of an ear-bashing when it comes to long intros. But, from the off, you can tell that 'Angel' is gonna be interesting. The swirling synths quickly break into a four-on-the-floor breakbeat effort with some gorgeous vocals, courtesy of one Susanna Wolfe – a sultry chanteuse of the first degree. There's a really live feel here, despite the reliance on samplers (an S3000XL in this case) and Cubase VST. The live guitars give the whole offering a cool edge and there's a serious commercial potential which is obvious, yet subtle. Okay, so Prodigy, Chemical Brothers and all the usual suspects have been knocking out live dance music for yonks. But Still Life bring a whole other ethic to the whole thing. The lovely vocals, for one, put Still Life into another category, and combining that with their songwriting prowess sets them in good stead. What they need to do now is concentrate on really honing their style, getting a good collection of top-class songs together, and getting out to some live audiences. A scary thought, perhaps, but the stage is the [illegible] training ground for many an act. Get out there, chaps, and let us know how it g[illegible] Enough from us let's see what our estee[illegible]ed industry pundits reckon to Still Life

[illegible] It starts well, then goes all Euro-disco. Urgghhh!

[illegible] The voice is ultimately the most compelling aspect of this track for some reason. This sounds like a four-on-the-floor remix of a better version.

[illegible] A very haunting track. Great chorus, lots of spooky strings and such. The poor song structure lets it down and the vocals become a bit dull once you've got beyond the second or third listen.

S[illegible] House by numbers: programme up (a) 120+ bpm four-on-the-floor (b) bass drum and 2's+4's (c) open hi-hat pattern (d) twin with Octave Bubbling Bass (e) create sweeping synth sounds (f) get singer to repeat tosh lyric with dreamy, e-culture reference and Presto! Forever live in a fantasy world that inspires us to dance. It works.

More from: Andy Brooks Tel: 01789 293979

LA REPRIEVED DEMO

TM: These guys were brave (or stupid) enough to display their wares live at our very own National Music Show, where unsuspecting potential stars get shot down in flames by a panel of industry experts (and a couple of journos, too). So they deserve some credit on that basis alone. They also deserve glory for an intoxicating demo that falls (very loosely) on a trip hop/drum 'n' bass tip. Opener 'Niteflying' is a kind of broody, trippy effort and it's a bit strange that they decided to make this the first track on the demo, because the second and, sadly, only other track, 'Brandon' kicks even more ass. With sultry vocals, lilting backings and a Jamiroquai-esque bent, it really is a serious contender in the commercial arena. At times, LA Reprieved need to let go a tad; getting some live experience under their belt could help them hone their style further. The guys tell us that they've got more tricks up their sleeves; let's hope we all here from them again soon. Over to *The Mix*'s own Oz Owen, and TC Electronic's Stephan Israël, who had the good fortune to co-judge the NMS event…

Stephan: This is really commercial stuff. It needs a bit of work on the production side, but LA Reprieved are obviously in a position to take it further.

Oz: Get a decent programmer/arranger on board and it might get somewhere.

More from: Andrew Scholey Tel: 01756 792742

CHRIS PIDD CONSTRUCTION

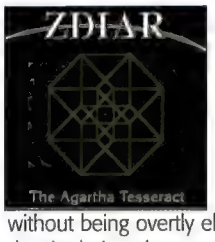
TM: *Music concrete* á la Cage or Stockhausen is Chris Pidd's bag. An adventurous one to take on, and one that could get him some flack in lesser educated circles But, he does it remarkably well. He also provides a biog that, if I was of a more cynical mind, I'd dismiss as utter pretension. That's that cleared up, then. There's a very conceptual theme to the, er, construction, of *Construction* and it's debatable whether it's done with the sense of irony that emits from the experimental epic. It's no easy listen, that's for sure but, in fact, this could even be a selling point if Chris has the same approach in the marketing of his material (cos it's gonna take some). And anyway, one has to take it with the obvious intent. At least that's what we hope. Little mention of equipment is made on the blurb, but I rather suspect that Chris has discovered some of the more esoteric functions in the sampler of his choice. Can't see record companies being overly keen, but that doesn't seem to be Chris' primary concern. Luckily.

Luke: Reminded me of Tesco's check-out; must pick up a pint on the way home. Ah well, at least it's serving a purpose, then…

Sam: Test tones and noise bursts. Hmm…

More from: topofthehouse@freeuk.com

ZDIAR THE AGARTHA TESSERACT



TM: Odd name, odd title, and, we're pleased to report, odd music (when it eventually gets going, that is). The German/Scottish duo are primarily keyboard types, and reckon they "manage to offer a refreshingly modern sound without being overtly electronic or sample based, despite being almost entirely keyboard based." And if you think that sounds garbled, you wanna check out the CD. No, actually you probably don't, unless you like badly-imitated moody '80s stuff devoid of personality. OK, maybe that's a bit harsh; there are some nice guitars at work, and the whole thing is well-produced in a kind of naff way. But ultimately there's very limited appeal. Take some risks, chaps. Whatever it takes, work on getting a really strong identity.

Sam: Where's the song?

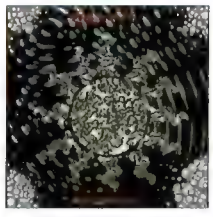
Sil: Moody and over its own head. There are loads of people making moody vibes with block chords, why? It's easy and unexciting.

Luke: What happened? It started beautifully with lush strings and fantastic orchestration. Then it stopped at the best bit (like an episode of *Eastenders*). Please send me the omnibus edition.

Simon: What? Try pronouncing that! I suggest Zdiar just goes out and buys Mahler's 4th, or a Vaughan Williams symphony, and forgets the string samples for a while.

More from: info@zdiar.com

HENRIK SPOOV UNIVERSAL AIRLINES



TM: Hailing from a Finnish guitar background might not be a prerequisite for commercial success, but Henrik Spoov? I'd assume it's a comedy moniker but, then again, he is a Finn. Anyway, he's supplied 10 tracks that combine his obvious guitar prowess with big beat. There's a definite nod to Prodigy on 'Solar Filter' which is in danger of being plagiaristic. All of which is a bit of a pity, because Henrik demonstrates throughout this offering that he has some brilliantly original ideas in his personal pipeline. 'Universal Airlines' is, apparently, Henrik's first computer music foray since leaving Finland for Scotland, where he is studying for an HND in music technology. There are those who shun their past, and those who embrace a veritable melting pot of their past influences. Fortunately, Mr. Spoov (damn, I still can't take the name seriously) falls into the latter category by quite some margin. Wow, a student who isn't divorced from reality…

Luke: It starts out well, with a big nod to old-skool hip-hop production values, but goes downhill rapidly – the drum samples suck and it's got no attitude.

Sam: This sounds like arcade game music with extra beats. Restless and annoying. Yeah, go on, send it to some games companies.

More from: Henrik Spoov Tel: +35 89 630 241

a&r checklist

We receive a mountain of tapes every month, so to maximise your chances of having your demo reviewed (and, if you're really good, getting on *The Mix* CD) we need you to provide the following:

- Decent quality cassettes, (preferably chrome type II), CD or DAT.
- A kit list of the gear used to produce the demo.
- A biography of the act. We want to know all about you!
- Artwork. This can be a picture of the act, or maybe a groovy graphic.
- Lastly, and most important of all, send us extremely cool music that genuinely deserves to be going places. Not too much to ask, is it?

Unsolicited packages might be accepted at the following address:

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30 Monmouth St,
Bath, England
BA1 2BW

CD info

track 2
Still Life: 'Angel'. Inspired breakbeat with beautifully sultry vocals

track 3
Tube Monkey: 'Demo'. A wild blend of electronica that's both disturbing and serene. See last month's issue for our full review

THE Mix contacts list

The complete guide to the manufacturers and distributors of the products featured in *The Mix*

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Distributing: Byetone, Digilab, Nevaton, Oktava.
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STUDIO SALE: Roland XP80 Keyboard Workstation, £800. Emu ESI-4000 turbo 32Mb sampler, £675. Behringer Composer Compressor, £100. Yamaha Stereo compressor GC2020, £90 Alesis Nanocompressor, £60. Behringer Virtualizer FX. £65 Tel: 0191 526 0068 (Co. Durham) E-mail tony@coop83.freeserve.co.uk

Tascam 144 portastudio with parametric EQ PE20 unit, offers please. Tel Keith on 01883 625842 evenings (Croydon/Redhill area)

Tascam 388 eight0track, quarter-inch, reel-to-reel portastudio, mixer combined, brilliant analogue machine, complete with seven-inch reels, tapes, home use, good condition £425. Tel Ken on 01332 880897 or e-mail: daysken@aol.com

Tascam 644 MIDIStudio Deluxe, four-track, 16-channel, four-buss mixer, eight channels with three-band EQ, inserts, two aux sends, MIDI muting, eight line inputs with level, pan, aux send, electronic signal routing, built-in smart FSK tape sync, impressive sound from tape, worth it just as four-buss mixer, excellent condition £300. Tel Tony on 01983 533784 or 07974 807658 (Isle Of Wight) or e-mail: t.t@tesco.net

TEAC 32-2B reel-to-reel stereo tape recorder with tapes £100. Tel John on 0181 592 1648

Yamaha 02R digital mixing desk, extremely powerful and amazing sound quality, also fitted with two ADAT cards, brand new, boxed, V2 software, for only £3,199. Tel 0181 357 3102

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Acoustic Series 3311 studio monitors, 125W, 11-inch woofer, liquid-cooled, 95dB.W sensitivity, as new, boxed £1,000 pair. Tel Hugh on 01772 259540 (Preston)

Laney Linebacker KB80 keyboard combo, three inputs each with gain treble bass, master volume,r everb and attack, effects loop, DI and headphone outputs £300 ono. Tel Keith on 0113 226 2363 (Leeds)

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Alesis NanoVerb 18-bit effects in pristine condition with box and manual £90 ono. Tel Jason on 0113 263 0649 or 0410 178585

Boss SE-50 multi-effects processor £200 (including p+p). Te Danny on 00 32 3542 0411 (Belgium) or e-mail: syndromeda@planetinternet.be

Line 6 POD guitar preamp (randy red colour) great amp simulations plus effects, MIDI, etc, easy to use, mint condition £200. Tel 01933 678608

MAM VF11 vocoder-filterbank £200 (includes p+p) Tel Danny on 00 32 3542 0411 (Belgium) or e-mail: syndromeda@planetinternet.be

Peavey 4x4 multi-effects unit, four in, four out, quality effects, excellent condition, worth £500, accept £200. Tel 0181 870 0809 (SW London)

SPL 8CH Charisma SPL Web site 4 spec, excellent condition, pump up your tracks, drums or any signal with tube warmth, £1,200 new, steal at £499. Tel Barry on 0152768704 (Redditch, Worcs) or e-mail ianday1@msn.com

Zoom 1204 £100. Tel Jim on 0171 928 1186

Zoom 9001 effects £50. Tel 0115 914 9429

SOUND MODULES

Akai SG01V analogue-type synth, sound module £160. Tel 01933 678608

Clavia Nord Lead II rack, new £725 or swap for Roland JV-2080. Tel 01603 870611 or 07887 524891

E-mu Proteus 2000 1,500+ sounds, dual effects, expandable, excellent condition £550. Tel Barry on 01527 68704 (Redditch, Worcs) or e-mail: ianday1@msn.com

Korg EA-1 and ER-1 £250 each. Yamaha S410 Sampler £110. All in excellent condition and boxed. Tel: 01707 882368 or 0410 750083 (Welwyn, Herts)

Novation BassStation analogue sound module with power supply and manual, keyboard edition £150. Tel Michael on 01905 830900 (Worcs) or 07990 828027

Quasimidi Rave-O-Lution 309 £320. Tel David on 0342 835005 or 07808 799305

Quasimidi Rave-O-Lution 309 fully expanded, all manuals, boxed, ideal for techno fans £440 ono. Tel Jon on 01243 376760 after 4pm

Roland GR-1 guitar synth £400. Tel Jim on 0171 928 1186

Roland JV-1080 excellent condition with box and manuals £500. Tel 0115 914 9429

Roland JV-2080 with vintage rochestral and world cards, boxed, as new, with PC-200 MkII free £1,000. Tel Jim on 0171 928 1186

Roland JV-1010. Brand new with box, all manuals. £380 (cash only) Tel: Matt 0181 660 0642

Roland MC-202 with manuals £160. Tel John on 0181 592 1648

Roland MC-303 Groovebox, boxed, with manuals, as new £275. Tel Danny on 0131 334 2523 (Edinburgh)

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Synth Manuals- ARP Avtar- Solus- Bit 1- Trilogy- Minimoog- Rouge-Yamaha CS01-CS5-CS10-Casio CZ101-VZ1-CZ1000-Korg MS10, MS20- VC10- Roland Jupiter 6- 106-60-SH2- SH3A- SH101- Octave CAT- Sequential PRO1- 600 + Many more from £10-00 inc. postage. Call 01942 796353

Various: Akai CD3000XL, 16Mb, sampler, effects board £950. Quasimidi Technox dance music synth £250. Maxi Studio ISIS soundcard £195. Atari ST with monitor £50. Tel 0171 345 7805

Various: Akai PEQ6 1U, six-channel, seven-band EQ, programmable £150. Zoom 9010, four effects £250. K2000, 8Mb £900. Volt studio speakers £290 Amcron D60, 1U, studio amp £90. Denon DR-M11 rack cassette £60. Anatek SMP audio, 16x16 patchbay, 8x8 MIDI £260. Tel 019243 216047

Various: Akai S2000, 32Mb, eight outs, S/PDIF, Zip drive £650. Mackie 1604 VLZ, Rotapod £500. TLA2051 voice channel, four valve stage £200. Tel 0181 444 5093 evenings

Various: Akai S2000 memory upgrade, output upgrade and effects £600. Bovation DrumStation and Super Bass Satation £200 each. Yamaha CS1x £300. Behringer Composer £120. Tel Adam on 07970 176709

Various: Akai S2000 sampler, extended from 2Mb to 32Mb, mint condition, manual, Zip drive £525 ono. Roland MC-303 drum unit, mint condition, boxed £220 ono. All for £700 or exchange for Roland SP-808 GrooveSampler. Tel Rick on 01253 738280 or Rick on 01253 735971 (Blackpool)

Various: Atari 1040 STFM, 4Mb, hi-res monitor, printer, *Cubase V3, Tango, Midex* £200 no offers. Pasmee hard-disk recording system for the Atari, two tracks within *Cubase*, digital in/out board, two hard drives £200 no offers. Tel 01427 811434

Various: Casio CZ-1, megaphat, aftertouch plus Multiverb LTX and 150 *FM/SOS*, swap all for TX-802 or DX7 MkII or sell. Tel 01702 3212748

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Various: E-mu 4XT Turbo, mint condition £1,550 ono. Fostex D160 with video card, mint £1,595. Alesis ADAT V4.03, 72 hours £650. Hill 28:4:2 desk with flightcase £250. DMP7 auto fader deck £250. Tel 0181 455 7677

Various: E-mu e6400 with Zip drive £900 Roland JP-8000 £675. Spirit FOlio Racpac, 14-track mixer £125. Alesis 3630 dual compressor £100. Studio Quad V2 £150. Tel Tristan on 07801 547706 evenings

Various: E-mu ESI32 32Mb £500. Yamaha AN1x £450. Korg 05R/W £250. Sny DAT DRC7000 £300. Atari 520 STE, 4Mb, monitor £100. All boxed, manuals, the lot £1,500. Tel 07880 597885 [*or could be 897885… couldn't read your writing!*]

Various: Fender Rhodes 73 MkII suitcase £395. Korg MonoPoly £295. Alesis S4 rack, 20Mb £279. Q2 £215. Yamaha CS1x £245. Korg X3 £299. Kurzweil K1000R £199. Akai SG01V £80. Tel 01261 815707

Various: Korg M1 keyboard, includes power supply £500 Boss SP-202 sampler, brand new, boxed £200. Boss DR-550 drum machine, uses batteries or adaptor £100. All manuals included. Tel Mick on 01324 553840 (Central Scotland) after 7pm

Various: Korg M1R classic rack £350 Joemeek VC4 enhancer £799. Technox synth module £250. DOD Tec4 effects unit £100. Tel 0117 924 3275

Various: Korg N364 workstation, mint condition £550. Alesis SR16 drum machine £100 or both for £625. Tel Ahsan on 0181 574 0946 (West London) evenings

Various: Korg Prophecy RAM card, extra sounds, as new £350. Korg NS5R module, as new £200. Matrix 1000 superb £200. Kawai K1R, as new £75. All with manuals. Tel Dave on 01642 289168 after 5.30pm

Various: Korg Wavestation SR, Trancewaves sound card £450. Korg M3R Valhalla soundcard £150. Both home use only. Tel Graham on 01223 564577 or 0403 474723

Various: Mackie 32:8 £1,800. DP4+ £550. Akai S3200XL £1,000. Digitech Studio Vocalist £500. TLA preamp compressor £500. Nord Lead £500. Mutator MIDI £500. TG500 £250. Zoom 1201 (two) £50 each. LA MIDI Mute £100. Tel 01224 571067

Various: Mackie SR 24:4VLZ, six effects sends, sweepable mids £485 ono. SPL Stereo Vitalizer Jack £85. Atari, 2Mb, monitor, Emagic *Logic* software, *Cubase* £150 ono. All excellent. Tel Andy on 01482 448674 evenings or 07713 019920

Various: Novation DrumStation MkII, mint condition with manual £250 ono. Simmons SDS2000 drum brain with manual and MIDI £150. Yamaha TG33 £180. Casio CZ-1000 with manuals £100. Tel 01536 501926

Various: OSCar £849. MC 202 £250. Mac computer MUSI system £399. Microwave II £499. CR68 £149. DR-110 £129. DR-660 £160. Tel Tom on 01384 353694

Various: Quasimidi Quasar £370. Kawai K4 £270. Roalnd JX-3P £200. Akai S20, 5Mb £270. Classic Keys £250. Yamaha QY300 £270. Zoom 9001, footswitch £100. Yamaha GW10 £170. Alesis QuadraVerb Plus £170. Tel Nigel on 0121 475 9485

Various: Quasimidi Technox dance module, pristine, boxed, manual £350. Roland MC-303, pristine, five months old, flightcase, manuals £300. Roland D-110 eight outputs, manual, very good condition £160. Atari 1040 STE, hi-res, *Cubase* £120. *Cubasis Audio* CD-ROM £40. Roland D-50 excellent condition, ROM card, sound disk £350. Tel 01902 744293

Various: Roland Juno 106 £420. SH-101 £250. 660 £170. DEP3 £170. TR-606 £120. Mackie CR 16:4 plus flightcase £450. Tascam DA20 £330. Yamaha NS1000 studio monitors £320. Tel Martin on 01522 820112

Various: Roland JX-3P polyphonic analogue synth, excellent sound £300. Roland TR-626, 80PS, good sounds £80. Technics 1200 deck £180 Trace Elliot GP12 SMX bass combo, 300W, 15-inch speaker £450. Tel 0121 704 4427 (Birmingham)

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Various: Roland A-30 £100. MidiVerb III £110. Behringer Composer £90. Studiomaster P7 16:8:2 £1,100. Pioneer amplifier, Awa tape deck, graphic equaliser, Memorex speakers, all £140, just add decks. Tel Malf on 01978 290251

Various: Roland MC-505 £500. Novation BassStation £150. Yamaha DJX dance keyboard £150. All in excellent condition, manuals, boxed, home use. Tel Stuart on 01278 684801

Various: Roland MC-505, one month old, boxed. Akai S2000, 32Mb, boxed. Zoom 1201 effects £1,100 ono. Will split, buyer collects. Tel Anyd on 0113 242 6977 (Leeds) or e-mail: andym.king@virgin.net

Various: Roland MKS-80 plus cartridge, manual £675. Korg X5DR, six months old £189. Yamaha TG33 £109. Korg M1 cards. Yamaha RY30 £155. Nord Classic rack, 12-voice expanded, PCIMA card £559. Sequential Circuit Sixtrak, mint, manual £325. Nord Lead rack, 12-voice expanded, PCIMA card, manual £539. Tel 01708 250846

Various: Roland TR-606 + KADI £160. Kenton Pro II + KADI £150. Behringer Multicom £100. Alesis MidiVerb IV £100. E-mu EMAX II £500. Sample CDs £20. MIDI books £5. QuikRack 16U + nuts £15. E-mail Mike on: mnewman@wcities.com

Various: Roland VS-CDR1 £575. Akai S01 sampler £250. Behringer SNR 2025 denoiser £100. Akai EX80E enhancer and EX90R reverb, 1U rack, adaptors, £120. All mint with mnauals. Black metal workbench £100. Tel David on 0181 366 9873

Various: Roland W-30 sampling workstation £400. Roland MC-303 Groovebox £230. Roland U-220 module £180. Novation BassStation £150. Tel 01223 513855 (Cambridge)

Various sample CDs (*Techno Trance, Vince Clarke, Korg Sampling Palette, Hallelujah*) £15 each. or *LF-Oid Bassline Loops, The Cosmos, Acid Bytes* for £10 each.. Soundquest MIDI Tools CD for PC £20. Tel Carl on 01507 606956 or e-mail: carl@cstocks.freeserve.co.uk

Various: Studio Vocalist manual, immaculate, hardly used. VS-880 expanded £800. Guitar processor emulitaro £620. All as new, with manuals. Tel 0121 427 5754

Various: Trace Elliot MP11 MIDI preamp with pedal board, offers invited. Fender 115 ELC speakers for PA £250 the pair. Kawai KC20 general MIDI keyboard £100. Tel 01305 834898 (Weymouth)

Various: Yamaha CS1x, as new £300. Fatar Studio Logic SL880, used once £400. Three-tier stand £50. *Cubase V3.55* £125. *FM* mags (35), offers Encore guitar and amp £100. Tel Terry on 01727 767357 or e-mail. terrynokes@virgin.net

Various: Yamaha CS1x keyboard £295. Two DLP1 mixing decks and mixer £150. P120 computer with *ACID Music* £150. All in excellent condition. Tel 01234 712006 after 6pm

Various: Yamaha MD4S MiniDisc recorder, multitracker, new condition £370. Zoom 234 drum machine £100. Focusrite Platinum Voicemaster £275. AKG C1000S £90. All mint and boxed with manuals. Tel Malt on 0411 303296

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Various: Yamaha SY85 memorycard, disks, manual £480 ono. Yamaha TG55 disks, manual £180 ono. Mackie 1604 VLZ, manual £550 ono. All in good condition. Tel 01633 672107 after 7pm

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Casio HT700 any original manuals, catalogues for synths, 1960s to late 980s, USA 12-cinh vinyl, 1982-1989, electro, house, acid and Detroit techno. Tel 0958 258825 (London)

***Cubase* for PC,** copy or original. E-mail: scbondar@hotmail.com

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Does anyone out there know where I can buy 2.8-inch QuickDisks for use with an early Akai sampler? Any UK suppliers still around? Thanks! E-mail Al: sonik@ukf.net

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Roland Jupiter 8 must be in very good condition. Tel 01622 204389 after 7pm

Roland JV-880 and Evolution MK149, in mint condition, manuals, all for £325 ono. Tel Roger on 0956 429305

Roland R-8 drum machine, ROM cards (808, 909, CD78) or info on where I can get them from. Tel Gran on 0116 270 9297 or 0411 642749

Roland TR-909, Korg Prophecy, Roland SH-09. Tel 04325 114497

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TX-802 and Alesis Qcards wanted. Tel 01261 815707

Yamaha 01V will pay £750. Also interested in expansion board Tel Andy on 01926 511169

Yamaha AN1x, will pay £300. Tel 0181 364 9194

Yamaha RM1x Tel Steve on 0410 742294 (Surrey) or e-mail: ee82st@ee.surrey.ac.uk

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Keyboardist seeks collaborators to make some wicked music, influences: Hybrid, Banco De Gaia, Gus Gus, BT, although I'm open to other styles too. Tel Anselm on 0171 605 5424 days or 0171 731 3563 eve.

Keyboardist wanted for tech industrial band based in London, own gear and transport essential. Tel Graham on 01223 564577 or 0403 474723

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Professional DJ seeks work in Nottingham/Derby area, clubs, bars or private occasions welcome, four years' experience, main influences: Sasha, Dave Seaman, Paul Oakenfold, can provide demos, no timewasters please. Tel James on 0115 973 1465

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HELP!

Can some charitable sound module-owning person send a poor teenager an Akai disk of Rhodes piano samples? Thank you very much. Send to Michael, 65 Ravenshaw Street, Hampstead, London

Does anyone have two-part mix by Danny Rampling made at a Seduction weekender in '95? Please help! Tel Anthony on 07940 066513

Does anyone out there know where I can buy 2.8-inch QuickDisks for use with an early Akai sampler? Any UK suppliers still around? Thanks! E-mail Al: sonik@ukf.net

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MCL Records required demos for new expanding breakbeat/dance label, please send demos and cover letters to 8-Mark, 122 New Cross Road, London, SE14 5BA

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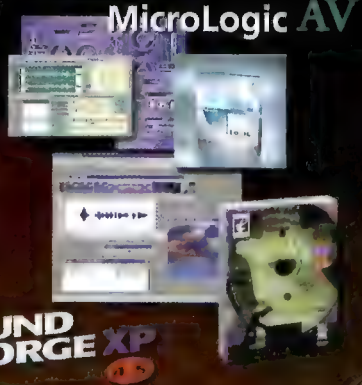

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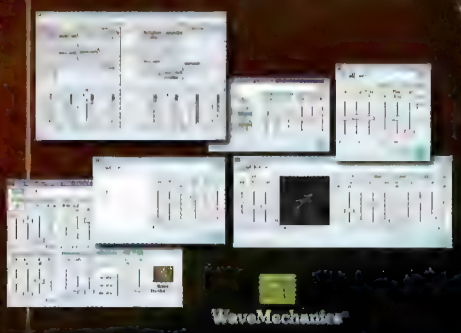

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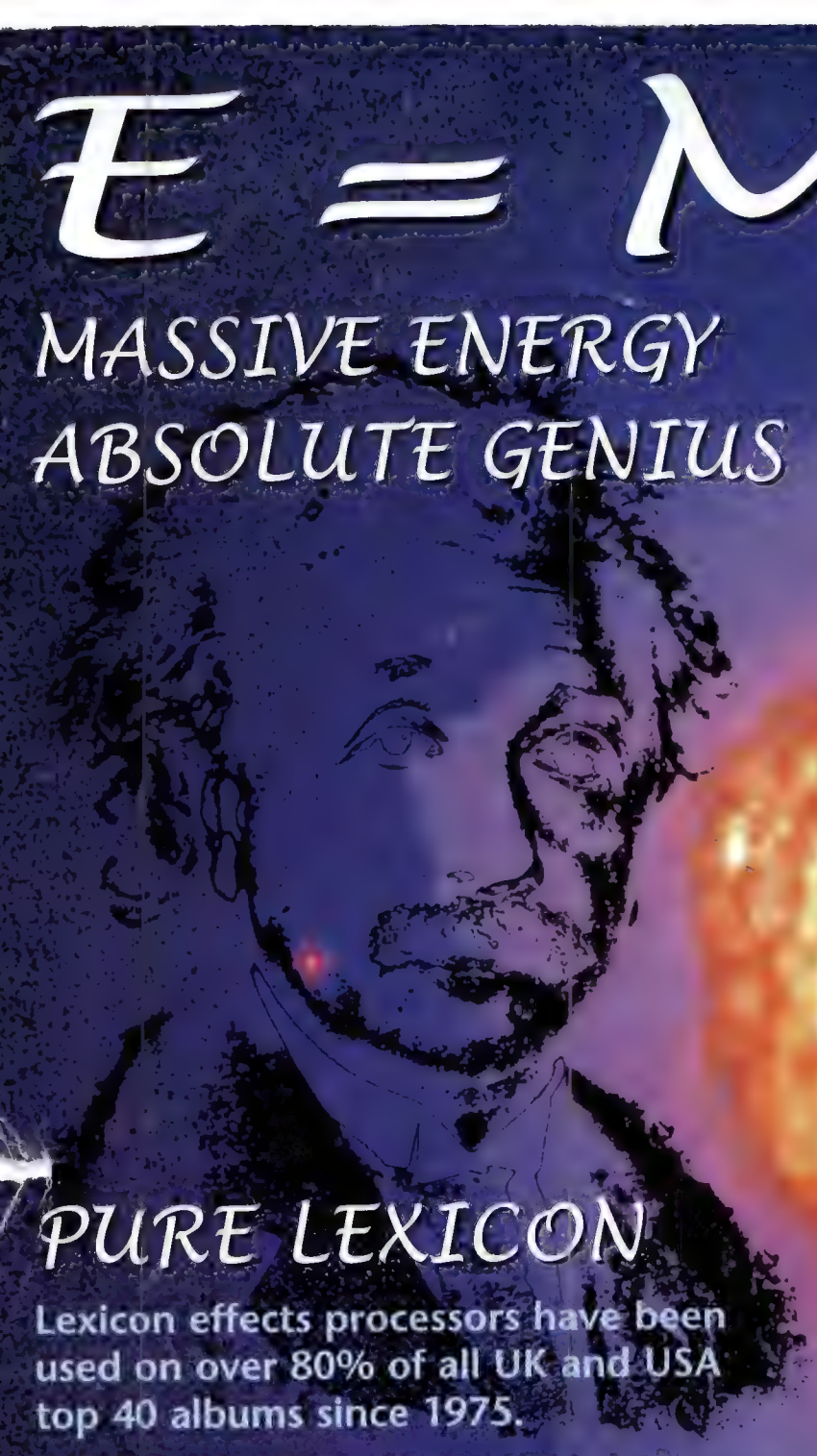

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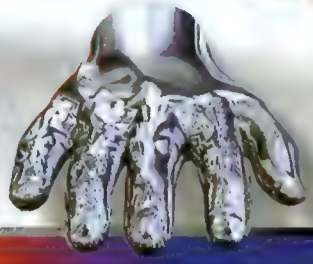

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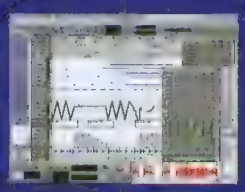

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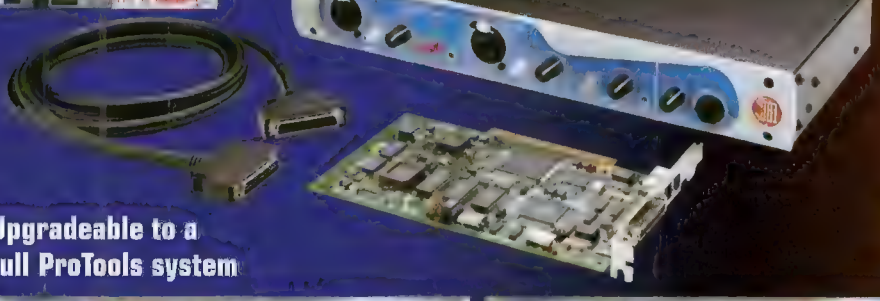

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- Real-Time AudioSuite™ (RTAS) Processing

with Free DigiRack™ Plug-In Effects

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Single PCI Card

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ADVENTURES IN AUDIO

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PSX-100

- 2 Channel
- 24 Bit 96K AD/DA Conversion System
- Softlimit
- Apogee bit splitting UV22 HR

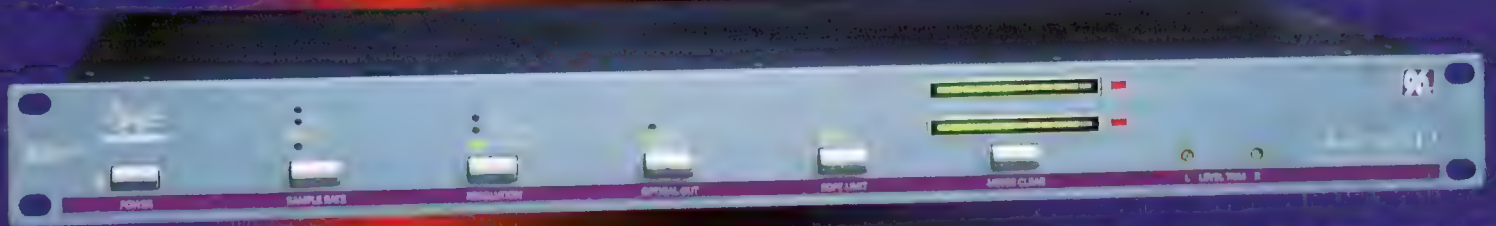
DV EXCLUSIVE PRICE... £1701

AD-8000

- 8 Channel
- 24 Bit AD/DA Conversion System
- Softlimit
- Apogee bit splitting UV22 HR

£3850

ROSETTA



- 24 Bit 48K & 96K AD Conversion Systems
- Softlimit
- Apogee bit splitting UV22 HR

FROM... £895

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CORE 2

- 24 Bit
- S/PDIF
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New standard in hard disk recording

only.... £510

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THE MOST EXCITING NEW PRODUCT OF THE YEAR

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- 24 Tracks; 192 virtual takes
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- Ease of use • Reliable
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- Fully blown editor
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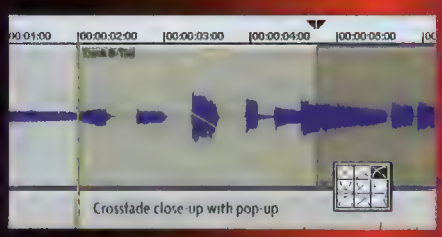
- Connect 4 together

POWERFUL, INTUITIVE AUDIO EDITING SOFTWARE BUILT RIGHT INTO THE HDR24/96

The HDR24/96 provides the creative editing tools you need - so you don't have to invest in an expensive computer-based workstation system.



Just plug a PC mouse, keyboard and SVGA monitor directly into the HDR24/96 rear ports.

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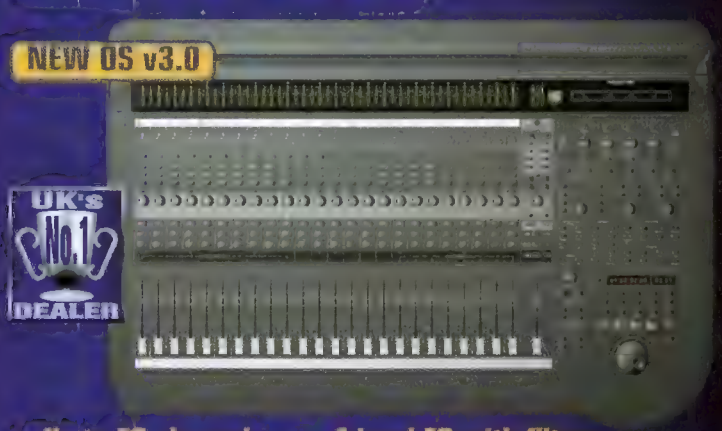

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Neumann's fastest selling mic ever...

£1106

...and their best

M149

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In the short time that the M147 Tube has been available, it has become Neumann's fastest selling microphone. And not without good reason.

Incorporating the K49 capsule from Neumann's legendary U47 and M49 microphones, it combines a valve impedance converter and an innovative transformerless output circuit. Resulting in a stunning ultra low noise microphone that is equally at home as a superb spot mic.

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AKG acoustics C 4000B

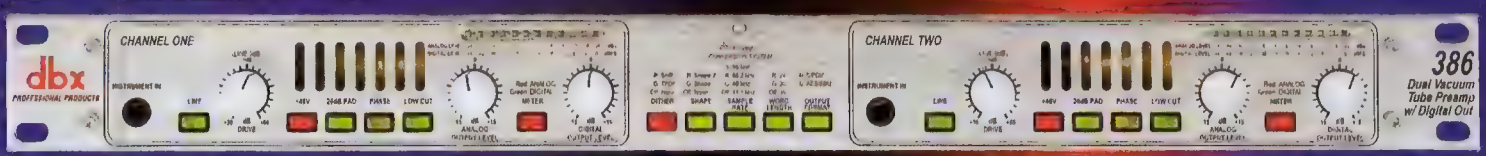
Large Diaphragm Professional Microphone

The C 4000B represents the latest in AKG's long heritage of true 1", large diaphragm, premium microphones. The capsule has been carefully tuned to preserve the integrity of the source while offering mild compliments in the high frequencies. The optimised transformerless output stage insures the accuracy of low frequency and a nearly non-existent self-noise. Open, clear and natural highs coupled with smooth, accurate lows make the C 4000B an exemplary choice when employed on vocals and on a varying array of string instruments, brass and woodwinds. With all the on-board options, the C 4000B has the versatility to take on many tasks in commercial, project and personal studios as well as on a stage and in the broadcast studio.

RRP £467 **£297**

dbx 386

Dual Vacuum Tube Preamp w/Digital Out



- Two channel tube microphone pre-amplifier
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- Fully modular in-line format
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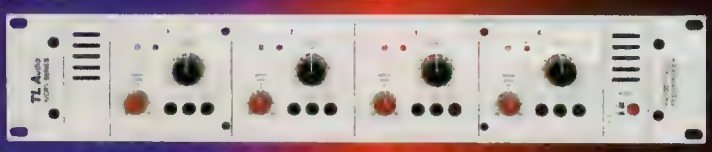

Ivory 5001 - 4 channel mic pre.....only £340

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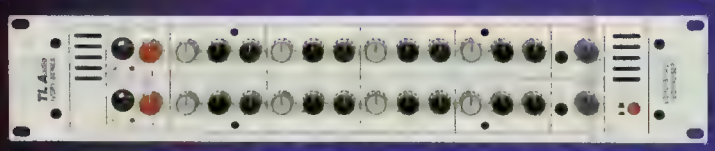
Ivory 5050 - Mono valve/compressor pre-amp....£212

Ivory 5051 - Mono valve/compressor pre-amp expander/gate & EQ £340



Ivory 5013 - 4 bands of parametric EQ per channel..£340

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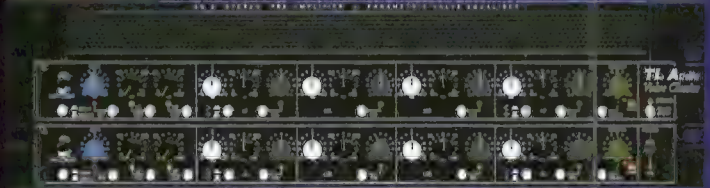

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SERIES 924

- 24 Bus
- 52 inputs on mix down (24 input)
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24 input...£5460
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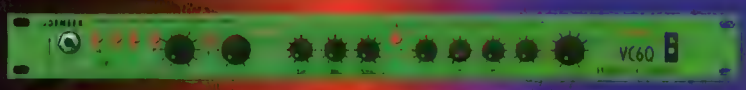
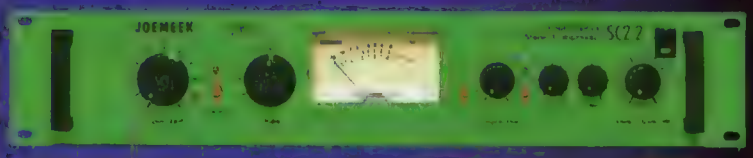
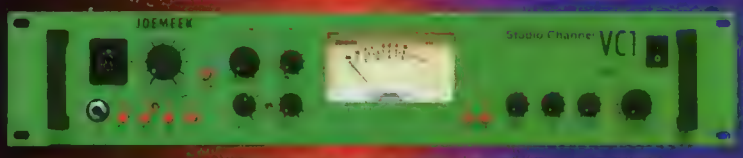


VC6Q Fully professional pro-channel photo optical pre-amp compressor & Meequalizer EQ....£255



SC2.2 Studio optical stereo compressor....£425



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Rugged Flight case fitted with:

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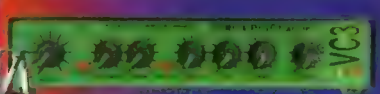

VC3v2
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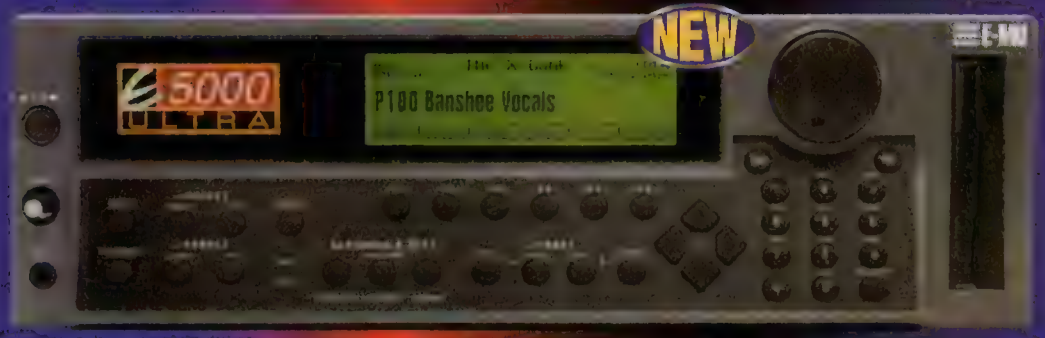

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Rob Papen and E-MU introduce the 32 MB Techno Synth Construction Yard Expansion ROM, a compilation of synth, techno, and ambient sounds from one of Europe's finest programmers. From atmospheric pads to punch sub-basses and crunch drum loops, these sounds will help you tear up the dance floor!

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- Up to 32 channels
- 16 analogue inserts
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- Optional meterbridge
- Surround sound

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- Digital cascade
- 24 bit ready
- Optional meterbridge
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+ TC Electronic Unity Board (M2000 or Finalizer) + ADAT Board...**£3745** ex VAT

MACKIE.

1604 VLZ **£510** ex VAT

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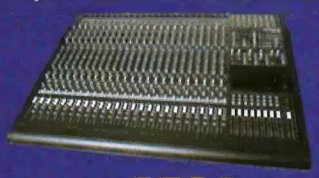

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Spirit F1	from £212	GS3000	from £1957
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56% OFF!!!

ONLY **£110** ex VAT

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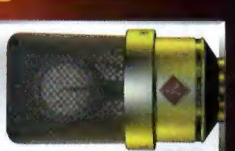

TLM 103 ..... £485

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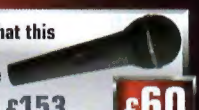

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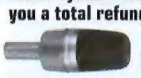

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